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Ontario

Lake Huron Management Unit
Report 01-00

# Status and Outlook for the Major Commercial Fish Species of Lake Huron, 2000

101-02434/

Lake Huron Management Unit
Report 01-00

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L.C. Mohr and S.R. Gile

Ontario Ministry of Natural Resources
Lake Huron Management Unit

5336
Rev.
(0.1 k P.R. 00 10 20)
ISSN1198-9629
ISSN 1180-226X (subseries)

2000, Queen's Printer for Ontario
Printed in Ontario, Canada

Additional copies of this publication are available at a cost of twenty dollars each plus g.s.t. from the address noted below:

Lake Huron Management Unit
Ministry of Natural Resources
1450 Seventh Avenue East
Owen Sound, Ontario
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# INTRODUCTION

Summarization of the commercial fishing information from Lake Huron is done annually by the staff of the Lake Huron Management Unit. This information is used in the assessment of the status of commercial fish populations in the lake which subsequently forms the basis for revisions of catch quotas incorporated in commercial fishing licences. Commercial quotas have been in effect since 1984, being the means by which harvest by licenced commercial fisheries is limited. This report contains annual harvest, effort, catch structure, and abundance statistics for the period 1982 to 1999 as well as a record of the quotas issued from 1984 onward.

The fundamental unit of organization within this report is the quota management area (QMA)(Figure 1). Each quota management area section contains 1999 data for quota, harvest, and estimated landed value, by species, along with comments regarding changes in these values from the previous year. Each section also contains species sub-sections presenting reported harvest and effort data, and estimated abundance data (Catch Per Unit of Effort or CPUE). Where sufficient numbers of fish were sampled from the commercial catch, the age composition and mean age of catches is also presented in tabular form. Should a management area contain more than one assessment area, there may be a further breakdown of data by these subdivisions. Comments are also provided which further describe the data being presented. Unless otherwise stated, percent changes reported in this document refer to the change from 1998 to 1999. Information presented in this report may also include corrections to errors in previous years' reports.

Since 1990, there have been two major changes in reporting which had the potential to increase the quality of assessment information. A new Daily Catch Report (DCR) form and reporting procedure was introduced in southern Lake Huron in 1989, extended to central Lake Huron in 1992, and then implemented lake-wide beginning in 1994. This new system required daily reporting of commercial fishing events which has improved the quality of reporting and made more detailed data analysis possible in most management areas. However, the changes in the reporting of fishing effort could have some effect on CPUE calculations in certain areas. This was taken into consideration when final evaluations of stocks were made. A second major change began in 1990 when commercial fishermen began to report the weight of non-quota fish captured in their fishing gear. This gave assessment biologists a better insight into the total catch by the commercial fishing fleet.

Several terms are used throughout this document to describe the commercial fishery. The term "quota" in this report refers to the total allowable commercial harvest within each QMA in 1999. This is the total of the quotas specified on issued commercial fishing licences, allowed harvests in other commercial fishing agreements, and any Crown held quota that was considered available to be harvested within a quota management area, basin or the entire lake. One exception is for lake trout. The lake trout "quota" in the summary tables in the main body of the text, includes lake trout quota plus any temporary lake trout allowance. If there is a separate lake trout sub-section presented for a management area, the quota bar on the harvest and quota graph is the quota without lake trout allowance and the amount of each is noted in the text. Lake trout quotas reported in the appendices also do not include any lake trout allowance values. In 1998 a new temporary lake whitefish allowance was available to commercial fishing licences and agreements in Georgian Bay (quota management areas 5-1 through 5-9). Lake whitefish allowance is presented in the report in the same way as lake trout allowance. Finally a number of fish species in specific areas of the lake are available to commercial fishing licences in unlimited quantities.

In quota management areas where quota has been purchased or leased from licensees by the Crown (QMA 4-4, 4-7, 5-3, and 6-1), not all quota may have been issued on commercial fishing licences. In QMA 6-1, quota and percent taken are presented for both the amount issued on commercial fishing licences before any temporary transfers from the Crown held quota, and also for the amount on commercial fishing licences after transfers from the Crown held quota.

The term "harvest" is used in this report to refer to the weight of all fish caught that are subsequently landed, sold, or taken home and subsequently are reconciled with the quota. This information is derived from the commercial fishers' Daily Catch Reports and from records of fish purchases by wholesalers. The term "catch" includes harvest and fish that are released alive or that are reported as discarded. The term "targeted" refers to data that is specific to fishing effort directed at a single species. It is the targeted catch and targeted effort values that are used in the calculation of catch per unit of effort (CPUE). Where targeted effort is not available for this calculation, tables or figures indicate "Not Available" or "na". In appendix tables, the "percent taken" value is the known targeted catch as a percent of the quota.

In this report the term "abundance" is defined narrowly as the quantity of fish in the population susceptible to commercial fishing gear. It equates roughly to the commercial CPUE. Relative fish abundance is followed from year to year using indices (i.e. CPUE) constructed from the reported commercial harvest and effort data.

The quantity of fish vulnerable to the commercial fishery in 2000 will consist of two components; firstly those fish surviving from the population that was vulnerable to commercial fishing gear in 1999, and secondly those fish that grow into the catchable population during 2000 (the "recruits"). Part of the uncertainty inherent in predicting the vulnerable population of fish in a given year is due to the fact that several ages of fish may be partially catchable before they can be considered fully recruited. To aid in better understanding catchability and age of recruitment within each fishery, the movement of year-classes (year-class = all fish hatched during a given year) of fish through the fishery is assessed using catch at age information. This information is obtained by partitioning catches into age classes (age class = all fish of the same age) using ages determined from fish sampled from the commercial catch. Together, these pieces of information describe the state of the fishery in the previous year and give insight into the supply of catchable fish being carried over into the current year. The commercial catch data is obtained by LHMU staff who conduct random on-board sampling of the commercial catch throughout the year.

A tracking of year to year changes in reproduction has been undertaken through independent index fishing and the indices of year-class strength thus derived are used to predict the abundance of recruits in the current and upcoming years. Index fishing projects are carried out at locations within each basin (Figure 1), in some cases through partnerships with commercial fishers. Estimates of pre-recruit abundance derived from these separate projects appear within the respective management area sections of this document. Year-class strength indices are calculated based on CPUE in the index gear of fish in age classes younger than those which make up most of the commercial catch (pre-recruits) in order to reduce the effects of commercial fishing mortality. Pre-recruit ages are 1 to 3 years for lake whitefish, 2 to 5 year olds for chub and 1 to 3 year olds for yellow perch (1 to 4 year olds in the North Channel). The calculated index values express the abundance of each year-class as a unitless numeric value relative to the abundance of other year-classes.

A transition in the type of net material used for index fishing has occurred during the 1990's. Prior to 1993, nylon multi-filament nets were used, while in 1993 and 1994 both monofilament and multi-filament gill nets were used. Since 1995, only monofilament nets were used, signifying the end of the multi-filament index netting data series. Due to the relatively shorter time series available for monofilament data and in order to maintain continuity with past data, indices derived from both gear types are presented in this report. The monofilament data are considered the best description of year-class strength for the 1990 and later cohorts.

For lake whitefish and walleye in specific quota management areas, harvest data, catch statistics and recruitment forecasts were incorporated into a cohort model to calculate estimates of fishing mortality, population size, and exploitable biomass. This model is made up of a series of calculations which use the reported catches from previous years, the sampled age structure of the catch, and the pre-recruit index. The cohort analysis produces

an estimate of the number and weight of fish vulnerable to the fishery for each year including the forthcoming, 2000. Since biomass and catches are both expressed in weight units, there should be a close relationship between the biomass estimates and CPUE over the years.

Discarding of portions of catches is a practice that has taken on new meaning since the introduction of quotas. Discarding has been largely confined to chub and was previously normally limited to the usually small part of the catch that failed to meet quality standards. Beginning about 1985, discarding came to include varying proportions of the catch, which in terms of market acceptance, were of lower value. The increasing amounts of fish involved have biased fishery statistics. An effort has been made to correct for this bias, as is seen in some graphs and tables where the retained and discarded portions of the catch are shown separately. A more acceptable discarding practice is the release of live fish, most often from trapnets, but also occasionally possible from gill nets. This discard information is also identified and included in specific graphs and tables wherever data were available.

A policy to deal with lake trout caught in excess of quota was implemented in all areas of Lake Huron in 1994. This was done to encourage more complete reporting of incidentally caught lake trout and discourage discarding. A lake trout allowance was available on commercial fishing licences in quota management areas where one or more licences reported lake trout catch in excess of quota in 1993. Lake trout in this category could be marketed through usual commercial channels with no penalty. In addition, all lake trout caught in excess of quota plus allowance could be marketed through usual commercial channels with a handling fee retained by the licensee and the remainder of the sale price remitted to the Crown. The temporary allowance is treated differently than quota administratively, in that the allowance cannot be leased or sold by itself but is present only in association with whitefish quota. If whitefish quota is leased or sold between licences, an associated amount of lake trout allowance is transferred along with it. Lake trout allowances in 1999 were unchanged from 1998 amounts.

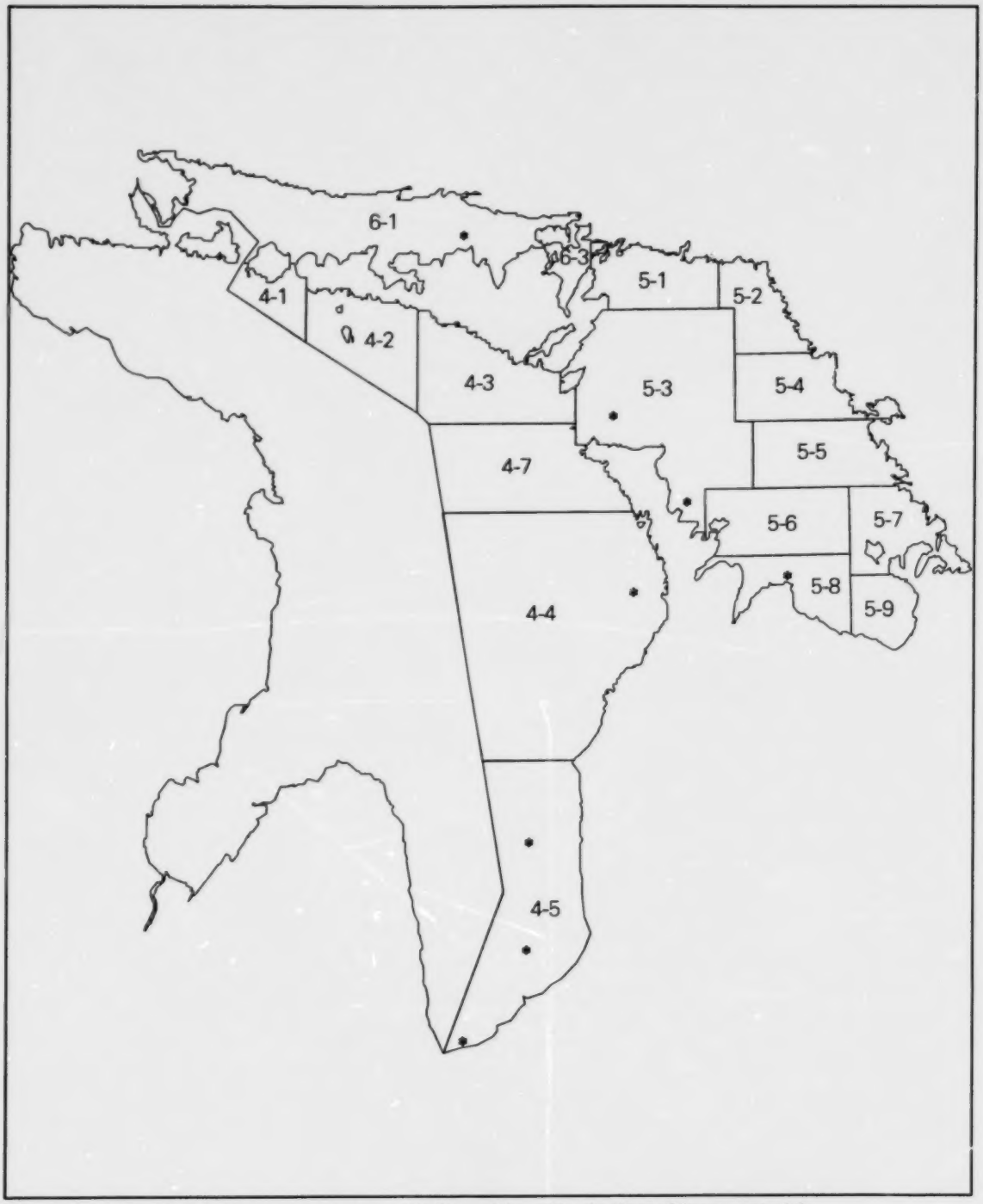



Figure 1. Lake Huron management areas. Index netting sites indicated by an asterisk.

## INTRODUCTION

## LAKE HURON

### GENERAL

- Total quota (including lake trout and lake whitefish allowance) issued on commercial fishing licences and other allocations in all of Lake Huron amounted to 4,335,421 kg in 1999 (Table 1).
- Harvest of all fish species under quota control was 3,493,738 kg. Estimated value of the harvest of species under quota control increased to $9,873,299.
- Total harvest and estimated value of all fish species was 3,565,329 kg and $9,921,806, respectively (Table 1). An additional 77,540 kg of fish of no commercial value was reported caught.

Table 1. Quota, harvest, percent quota taken, catch, and estimated value by species for all three basins of Lake Huron in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 62,803 | 25,607 | 40.8 | 25,653 | 28,146 |
| Chub | 953,293 | 333,856 | 35.0 | 349,059 | 1,170,060 |
| Lake Sturgeon | 11,501 | 5,065 | 44.0 | 8,355 | 32,106 |
| Lake Trout | 107,013 | 171,166 | 159.9 | 186,933 | 285,125 |
| Lake Whitefish | 2,816,074 | 2,743,329 | 97.4 | 2,757,034 | 7,167,909 |
| Northern Pike | 14,363 | 1,231 | 8.6 | 1,372 | 2,002 |
| Walleye | 146,236 | 91,604 | 62.6 | 93,336 | 399,847 |
| Yellow Perch | 224,138 | 121,880 | 54.4 | 121,881 | 788,104 |
| Alewife | | 0 | | 267 | 0 |
| Atlantic Salmon | | 0 | | 9 | 0 |
| Bigmouth Buffalo | | 51 | | 51 | 0 |
| Brown Bullhead | | 4 | | 44 | 0 |
| Brown Trout | | 0 | | 18 | 0 |
| Burbot | | 317 | | 27,979 | 0 |
| Chinook Salmon | | 351 | | 1,687 | 0 |
| Coho Salmon | | 72 | | 107 | 0 |
| Common Carp | | 309 | | 1,300 | 168 |
| Freshwater Drum | | 30,445 | | 30,445 | 13,427 |
| Gizzard Shad | | 755 | | 9,645 | 0 |
| Lake Herring | | 12,803 | | 15,090 | 12,055 |
| Longnose Sucker | | 0 | | 9 | 0 |
| Muskellunge | | 0 | | 5 | 0 |
| Pink Salmon | | 1,201 | | 2,039 | 0 |
| Rainbow Smelt | | 5,836 | | 5,934 | 3,216 |
| Rainbow Trout | | 44 | | 381 | 0 |
| Redhorse Suckers | | 3,618 | | 3,618 | 0 |
| Rock Bass | | 31 | | 727 | 0 |
| Round Whitefish | | 15,084 | | 15,373 | 18,913 |
| Smallmouth Bass | | 9 | | 32 | 0 |
| Suckers | | 218 | | 32,281 | 0 |
| White Bass | | 399 | | 427 | 680 |
| White Perch | | 44 | | 44 | 48 |
| White Sucker | | 0 | | 2 | 0 |
| Other/Mixed | | 0 | | 1,617 | 0 |
| Total | 4,335,421 | 3,565,329 | | 3,692,754 | 9,921,806 |

## LAKE HURON MAIN BASIN

### GENERAL

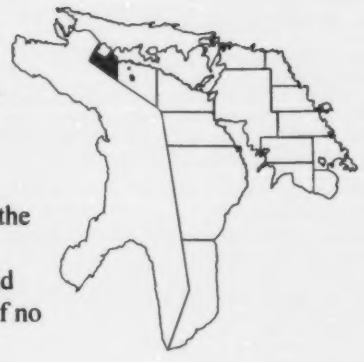
- Total quota (including lake trout allowance) issued on commercial fishing licences and other allocations in the Lake Huron main basin was 3,079,557 kg (Table 4.1).
- Harvest of all fish species under quota control decreased 2% to 2,581,113 kg. Estimated value of the harvest of species under quota control increased 14% to $7,390,072.
- Total harvest and estimated value of all fish species was 2,617,238 kg and $7,404,588, respectively (Table 4.1). An additional 56,246 kg of fish of no commercial value was reported caught.

Table 4.1. Quota, harvest, percent quota taken, catch, and estimated value by species for Lake Huron main basin in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 55,577 | 25,594 | 46.1 | 25,606 | 28,146 |
| Chub | 551,091 | 176,974 | 32.1 | 189,243 | 611,136 |
| Lake Sturgeon | 4,958 | 3,638 | 73.4 | 4,322 | 23,185 |
| Lake Trout | 68,679 | 79,550 | 115.8 | 89,374 | 149,733 |
| Lake Whitefish | 2,115,109 | 2,102,031 | 99.4 | 2,110,145 | 5,479,744 |
| Northern Pike | 1,514 | 0 | 0.0 | 0 | 0 |
| Walleye | 126,306 | 81,918 | 64.9 | 82,983 | 361,172 |
| Yellow Perch | 156,323 | 111,428 | 71.3 | 111,428 | 736,956 |
| Alewife | | 0 | | 237 | 0 |
| Atlantic Salmon | | 0 | | 9 | 0 |
| Bigmouth Buffalo | | 51 | | 51 | 0 |
| Burbot | | 268 | | 10,800 | 0 |
| Chinook Salmon | | 0 | | 251 | 0 |
| Coho Salmon | | 0 | | 29 | 0 |
| Common Carp | | 90 | | 104 | 54 |
| Freshwater Drum | | 30,445 | | 30,445 | 13,427 |
| Gizzard Shad | | 755 | | 9,604 | 0 |
| Lake Herring | | 272 | | 274 | 258 |
| Longnose Sucker | | 0 | | 3 | 0 |
| Pink Salmon | | 43 | | 104 | 0 |
| Rainbow Smelt | | 5 | | 90 | 2 |
| Rainbow Trout | | 0 | | 32 | 0 |
| Redhorse Suckers | | 3,613 | | 3,613 | 0 |
| Rock Bass | | 28 | | 28 | 0 |
| Round Whitefish | | 43 | | 46 | 47 |
| Smallmouth Bass | | 3 | | 3 | 0 |
| Suckers | | 64 | | 2,752 | 0 |
| White Bass | | 381 | | 381 | 680 |
| White Perch | | 44 | | 44 | 48 |
| White Sucker | | 0 | | 2 | 0 |
| Other/Mixed | | 0 | | 1,481 | 0 |
| Total | 3,079,557 | 2,617,238 | | 2,673,484 | 7,404,588 |

## MANAGEMENT AREA 4-1

### GENERAL



- Quota issued on commercial fish licences was 128,694 kg, including a lake trout allowance of 6,133 kg (Table 4-1.1).
- Harvest of all fish species under quota control decreased slightly to 102,898 kg. Lake whitefish and lake trout made up almost all of the commercial fish harvest in this management area. Estimated value of the harvest of species under quota control decreased 2% to $215,552.
- Harvest and estimated value of all fish species sold was 102,927 kg and $215,579, respectively (Table 4-1.1). An additional 3,092 kg of fish of no commercial value was reported caught.

Table 4-1.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-1 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 1,287 | 0 | 0.0 | 0 | 0 |
| Chub | 22,833 | 63 | 0.3 | 82 | 187 |
| Lake Sturgeon | 203 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 9,017 | 8,164 | 90.5 | 9,373 | 14,938 |
| Lake Whitefish | 94,785 | 94,640 | 99.8 | 94,753 | 200,297 |
| Northern Pike | 0 | 0 | 0.0 | 0 | 0 |
| Walleye | 519 | 31 | 6.0 | 31 | 130 |
| Yellow Perch | 50 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 1,281 | 0 |
| Chinook Salmon | | 0 | | 67 | 0 |
| Common Carp | | 0 | | 14 | 0 |
| Lake Herring | | 26 | | 26 | 25 |
| Pink Salmon | | 0 | | 59 | 0 |
| Rainbow Smelt | | 3 | | 20 | 2 |
| Suckers | | 0 | | 313 | 0 |
| Total | 128,694 | 102,927 | | 106,019 | 215,579 |

## LAKE WHITEFISH

- Quota issued was 94,785 kg.
- The harvest increased 2% to 94,640 kg, 99.8% of the quota (Figure 4-1.1).
- Effort decreased 13% to 610 km (Figure 4-1.2).
- CPUE increased 16% to 155 kg/km (Figure 4-1.3).
- A catch sample of 99 fish consisted of 1% 5 year olds, 13% 6 year olds, 27% 7 year olds, 35% 8 year olds, 16% 9 year olds, and 6% 10 year olds and older.
- The age composition of the catch indicates an aging population with several year-classes still contributing to the fishery with a mean age of 7.8 years.
- Abundance is not expected to change in 2000 as several mature year-classes continue to contribute to the harvest.

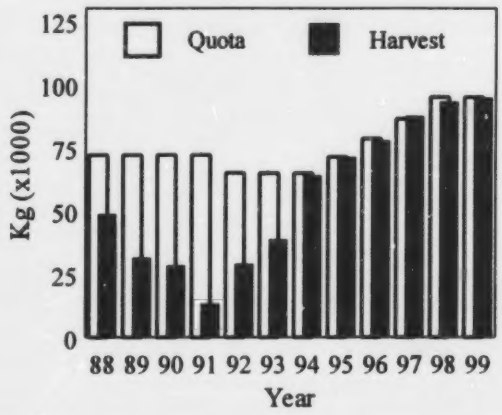



Figure 4-1.1. Lake whitefish quota and harvest (kg) for management area 4-1.

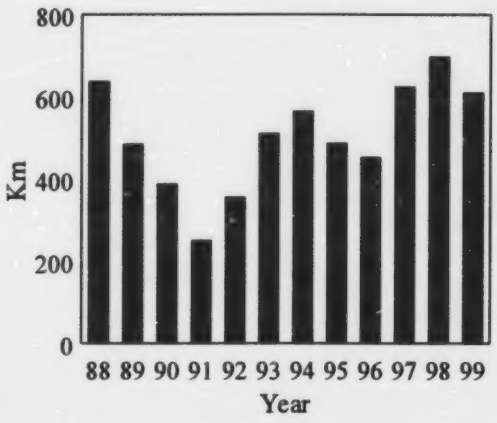



Figure 4-1.2. Lake whitefish gill net effort (km) for management area 4-1.

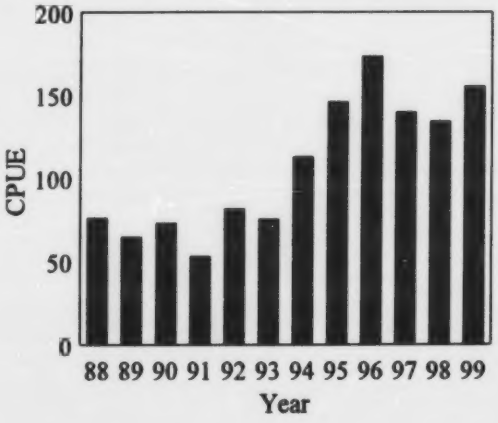



Figure 4-1.3. Lake whitefish gill net CPUE (kg/km) for management area 4-1.

**CHUB**

- Quota issued was 22,833 kg.
- Harvest decreased 99% to 63 kg, 0.3% of the quota (Figure 4-1.4).
- Effort also decreased 100% to 0 km (Figure 4-1.5).
- Decreasing CPUE in adjacent areas suggests a decrease in abundance in 2000.

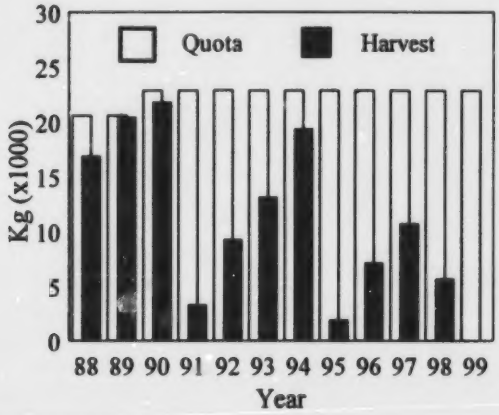



Figure 4-1.4. Chub quota and harvest (kg) for management area 4-1.

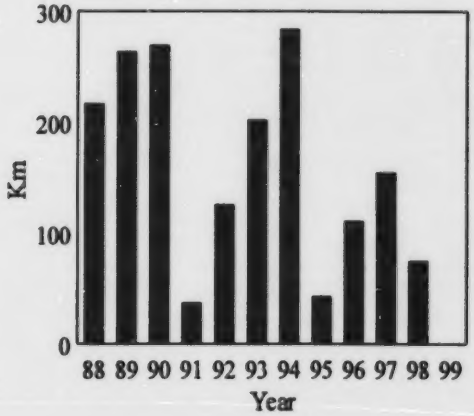



Figure 4-1.5. Chub gill net effort (km) for management area 4-1.

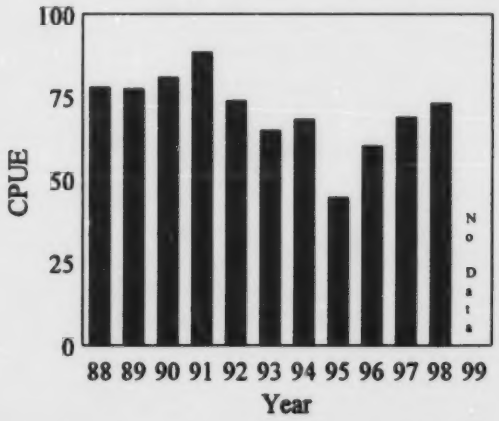



Figure 4-1.6. Chub gill net CPUE (kg/km) for management area 4-1.

## MANAGEMENT AREA 4-2

### GENERAL

- Quota issued on commercial fishing licences was 276,009 kg, including a lake trout allowance of 1,411 kg (Table 4-2.1).
- Harvest of all fish species under quota control decreased 15% to 228,717 kg. Estimated value of the harvest of species under quota control decreased 1% to $486,433.
- Harvest and estimated value of all fish species sold was 229,044 kg and $486,673, respectively (Table 4-2.1). An additional 17,507 kg of fish of no commercial value was reported caught.

Table 4-2.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-2 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 3,636 | 149 | 4.1 | 161 | 102 |
| Chub | 43,582 | 4,069 | 9.3 | 7,456 | 12,111 |
| Lake Sturgeon | 357 | 10 | 2.8 | 14 | 69 |
| Lake Trout | 3,489 | 3,522 | 100.9 | 3,616 | 6,444 |
| Lake Whitefish | 224,243 | 220,942 | 98.5 | 228,943 | 467,602 |
| Northern Pike | 129 | 0 | 0.0 | 0 | 0 |
| Walleye | 373 | 25 | 6.7 | 25 | 105 |
| Yellow Perch | 200 | 0 | 0.0 | 0 | 0 |
| Atlantic Salmon | | 0 | | 9 | 0 |
| Burbot | | 0 | | 2,782 | 0 |
| Chinook Salmon | | 0 | | 88 | 0 |
| Coho Salmon | | 0 | | 29 | 0 |
| Common Carp | | 69 | | 69 | 41 |
| Freshwater Drum | | 16 | | 16 | 10 |
| Gizzard Shad | | 0 | | 2 | 0 |
| Lake Herring | | 199 | | 200 | 189 |
| Longnose Sucker | | 0 | | 3 | 0 |
| Pink Salmon | | 43 | | 45 | 0 |
| Rainbow Smelt | | 0 | | 64 | 0 |
| Rainbow Trout | | 0 | | 18 | 0 |
| Suckers | | 0 | | 1,832 | 0 |
| White Sucker | | 0 | | 2 | 0 |
| Other/Mixed | | 0 | | 1,177 | 0 |
| Total | 276,009 | 229,044 | | 246,551 | 486,673 |

## LAKE WHITEFISH

- The quota issued was 224,243 kg.
- The harvest decreased 2% to 220,942 kg, 99% of the quota (Figure 4-2.1). The gill net fishery accounted for 65% of the harvest with the remainder coming out of trap nets (Figure 4-2.2).
- Gill net effort decreased 10% to 815 km and trap net effort decreased 10% to 170 net lifts (Figure 4-2.3).
- CPUE in the gill net fishery increased 10% to 184 kg/km and increased 23% to 466 kg/net lift in the trap net fishery (Figure 4-2.4).
- Age 7 and 8 fish made up most of the harvest in 1999 (Tables 4-2.1,4-2.2). Mean age of whitefish harvested continued to increase in 1999.
- Age composition of the catch and harvest suggests that the stronger than average 1991 year-class has been followed by several weaker years-classes.
- Overall abundance is not expected to change in 2000 (Figure 4-2.5).

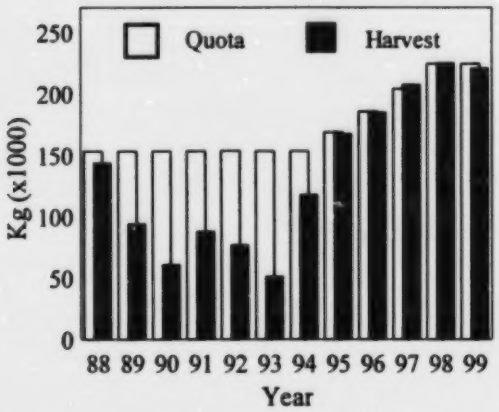



Figure 4-2.1. Lake whitefish quota and harvest (kg) for management area 4-2.

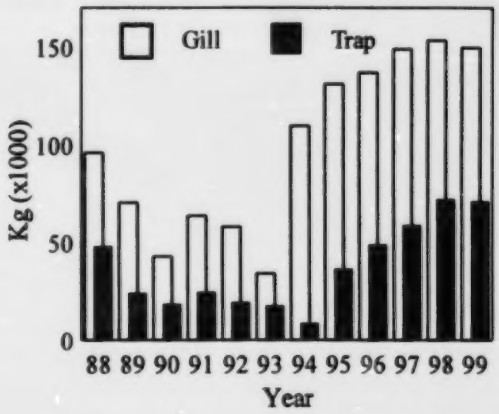



Figure 4-2.2. Lake whitefish harvest (kg) for management area 4-2.

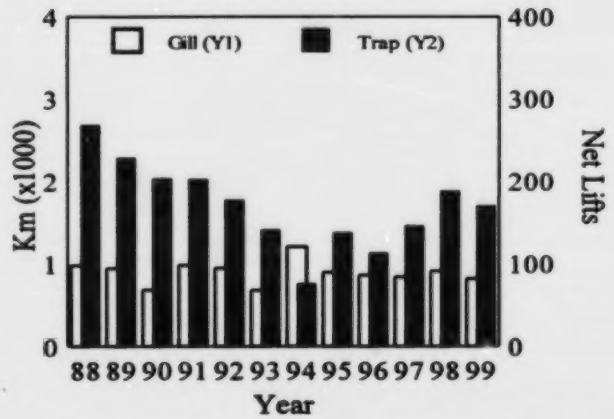



Figure 4-2.3. Lake whitefish effort for management area 4-2.

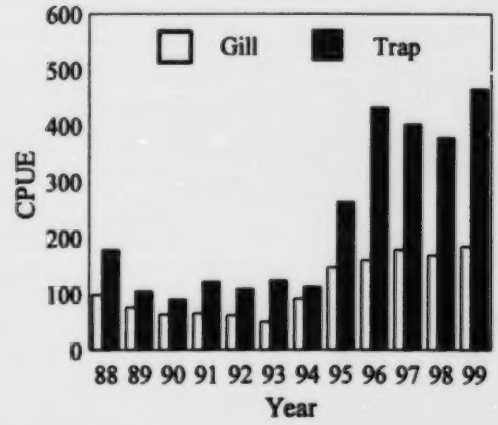



Figure 4-2.4. Lake whitefish CPUE (kg/km and kg/net lift) for management area 4-2.

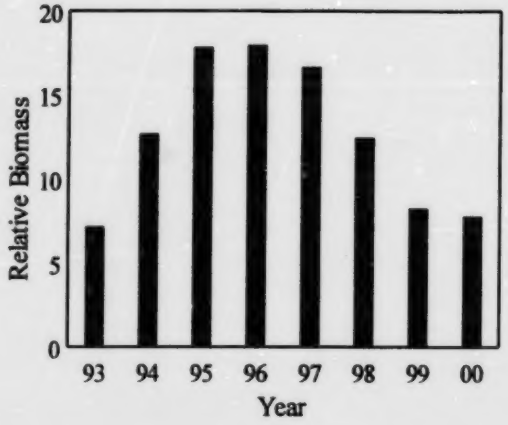



Figure 4-2.5. Exploitable biomass of whitefish (ages 4-10) in management area 4-2.

Table 4-2.2. Estimated number of lake whitefish harvested in gill nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 1546 | 1027 | 453 | 1726 | 1731 | 1042 | 131 | 0 | 2050 | 0 | 0 |
| 4 | 5367 | 7533 | 12318 | 28230 | 18102 | 10050 | 24658 | 11298 | 2110 | 4287 | 334 | 0 |
| 5 | 53462 | 17481 | 8100 | 13596 | 18391 | 9951 | 27050 | 25489 | 41863 | 17828 | 12709 | 4763 |
| 6 | 15499 | 19117 | 6061 | 2358 | 3010 | 2897 | 15880 | 33076 | 37428 | 35121 | 28275 | 18471 |
| 7 | 1989 | 3220 | 3714 | 1057 | 835 | 996 | 6966 | 16922 | 22099 | 32315 | 52015 | 28384 |
| 8 | 1574 | 1131 | 1040 | 1508 | 777 | 465 | 2508 | 5065 | 5972 | 12354 | 13894 | 39176 |
| 9 | 0 | 407 | 212 | 223 | 478 | 152 | 899 | 2210 | 1346 | 4863 | 5167 | 13513 |
| 10 | 348 | 206 | 352 | 122 | 141 | 157 | 639 | 949 | 502 | 1204 | 2387 | 972 |
| 11 | 0 | 0 | 24 | 122 | 0 | 0 | 367 | 369 | 301 | 175 | 196 | 1653 |
| 12 | 97 | 0 | 0 | 0 | 0 | 101 | 228 | 189 | 201 | 89 | 138 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 89 | 138 | 0 |
| >13 | 0 | 0 | 0 | 0 | 63 | 0 | 0 | 88 | 0 | 0 | 0 | 0 |
| Mean Age | 5.3 | 5.5 | 5.2 | 4.7 | 4.7 | 4.8 | 5.2 | 5.9 | 6.0 | 6.4 | 6.7 | 7.4 |

Table 4-2.3. Estimated number of lake whitefish harvested in trap nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 472 | 1097 | 2921 | 2163 | 1468 | 2233 | 711 | 307 | 74 | 282 | 160 | 0 |
| 4 | 9505 | 2993 | 6486 | 16313 | 10027 | 7418 | 3396 | 8520 | 1525 | 3566 | 758 | 296 |
| 5 | 22245 | 3952 | 2706 | 3257 | 4148 | 3319 | 1852 | 9639 | 24170 | 12218 | 7662 | 7308 |
| 6 | 5289 | 5176 | 1734 | 486 | 947 | 1201 | 626 | 6701 | 9341 | 15118 | 13071 | 15402 |
| 7 | 2074 | 2053 | 1230 | 236 | 144 | 335 | 367 | 3373 | 4169 | 14222 | 20586 | 15924 |
| 8 | 575 | 505 | 540 | 33 | 23 | 70 | 92 | 1577 | 1640 | 4625 | 9950 | 10099 |
| 9 | 0 | 143 | 125 | 119 | 0 | 246 | 14 | 733 | 411 | 408 | 2854 | 4210 |
| 10 | 0 | 0 | 23 | 33 | 0 | 9 | 79 | 255 | 74 | 135 | 0 | 789 |
| 11 | 177 | 26 | 27 | 0 | 0 | 9 | 26 | 240 | 0 | 0 | 0 | 263 |
| 12 | 50 | 0 | 0 | 0 | 0 | 0 | 26 | 51 | 74 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 5.0 | 5.3 | 4.7 | 4.2 | 4.3 | 4.4 | 4.7 | 5.6 | 5.8 | 6.0 | 6.6 | 6.9 |

Table 4-2.4. Estimated number of harvested and released lake whitefish caught in trap nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 514 | 0 | 48 | 39 | 176 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 7749 | 1468 | 4619 | 2650 | 4922 | 2048 | 1301 | 427 | 390 | 1305 | 2871 | 0 |
| 3 | 10652 | 3134 | 23624 | 16421 | 12815 | 11364 | 10249 | 6704 | 2490 | 9593 | 18229 | 1274 |
| 4 | 14774 | 3346 | 8616 | 23119 | 12160 | 8820 | 4724 | 22580 | 5242 | 11630 | 23409 | 4675 |
| 5 | 22729 | 4008 | 2706 | 3283 | 4148 | 3342 | 2031 | 12488 | 29905 | 17602 | 18603 | 11317 |
| 6 | 5471 | 5176 | 1734 | 499 | 947 | 1213 | 885 | 7736 | 10831 | 17888 | 19349 | 17175 |
| 7 | 2074 | 2053 | 1230 | 236 | 144 | 335 | 367 | 3586 | 4704 | 14652 | 23375 | 16811 |
| 8 | 575 | 505 | 540 | 33 | 23 | 70 | 92 | 1577 | 1733 | 4625 | 9950 | 10099 |
| 9 | 0 | 143 | 125 | 119 | 0 | 246 | 14 | 733 | 411 | 408 | 2854 | 4210 |
| 10 | 0 | 0 | 23 | 33 | 0 | 9 | 79 | 255 | 74 | 135 | 0 | 789 |
| 11 | 177 | 26 | 27 | 0 | 0 | 9 | 26 | 240 | 0 | 0 | 0 | 263 |
| 12 | 50 | 0 | 0 | 0 | 0 | 0 | 26 | 51 | 74 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 4.5 | 4.6 | 4.2 | 3.8 | 3.9 | 4.0 | 4.2 | 5.1 | 5.4 | 5.4 | 5.9 | 6.3 |

Table 4-2.5. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 1.7 | 1.5 | 0.5 | 1.8 | 2.6 | 0.9 | 0.2 | 0 | 2.5 | 0 | 0 |
| 4 | 5.5 | 8 | 18.2 | 28.9 | 19.2 | 14.9 | 20.5 | 12.7 | 2.5 | 5.1 | 0.4 | 0 |
| 5 | 54.8 | 18.7 | 12 | 13.9 | 19.5 | 14.7 | 22.5 | 28.5 | 48.8 | 21.3 | 14.1 | 5.8 |
| 6 | 15.9 | 20.4 | 8.9 | 2.4 | 3.2 | 4.3 | 13.2 | 37 | 43.7 | 42 | 31.4 | 22.7 |
| 7 | 2 | 3.4 | 5.5 | 1.1 | 0.9 | 1.5 | 5.8 | 18.9 | 25.8 | 38.6 | 57.7 | 34.8 |
| 8 | 1.6 | 1.2 | 1.5 | 1.5 | 0.8 | 0.7 | 2.1 | 5.7 | 7 | 14.8 | 15.4 | 48.1 |
| 9 | 0 | 0.4 | 0.3 | 0.2 | 0.5 | 0.2 | 0.8 | 2.5 | 1.6 | 5.8 | 5.7 | 16.6 |
| 10 | 0.4 | 0.2 | 0.5 | 0.1 | 0.2 | 0.2 | 0.5 | 1.1 | 0.6 | 1.4 | 2.7 | 1.2 |
| 11 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.3 | 0.4 | 0.4 | 0.2 | 0.2 | 2.1 |
| 12 | 0.1 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.2 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 |

Table 4-2.6. CPUE-at-age (number/net) for lake whitefish harvested in trap nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1.8 | 4.8 | 14.4 | 10.7 | 8.3 | 15.8 | 9.4 | 2.2 | 0.7 | 1.9 | 0.9 | 0 |
| 4 | 35.5 | 13.1 | 32 | 80.8 | 56.7 | 52.6 | 44.7 | 61.7 | 13.5 | 24.4 | 4.1 | 1.8 |
| 5 | 83 | 17.3 | 13.3 | 16.1 | 23.4 | 23.5 | 24.4 | 69.9 | 213.9 | 83.7 | 41.0 | 43.2 |
| 6 | 19.7 | 22.7 | 8.5 | 2.4 | 5.4 | 8.5 | 8.2 | 48.6 | 82.7 | 103.6 | 70.0 | 91.1 |
| 7 | 7.7 | 9 | 6.1 | 1.2 | 0.8 | 2.4 | 4.8 | 24.4 | 36.9 | 97.4 | 110.1 | 94.2 |
| 8 | 2.2 | 2.2 | 2.7 | 0.2 | 0.1 | 0.5 | 1.2 | 11.4 | 14.5 | 31.7 | 53.2 | 59.8 |
| 9 | 0 | 0.6 | 0.6 | 0.6 | 0 | 1.7 | 0.2 | 5.3 | 3.6 | 2.8 | 15.3 | 24.9 |
| 10 | 0 | 0 | 0.1 | 0.2 | 0 | 0.1 | 1 | 1.9 | 0.7 | 0.9 | 0 | 4.7 |
| 11 | 0.7 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.3 | 1.7 | 0 | 0 | 0 | 1.6 |
| 12 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 | 0.7 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4-2.7. CPUE-at-age (number/net) for harvested and released lake whitefish caught in trap nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.9 | 0 | 0.2 | 0.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 28.9 | 6.4 | 22.8 | 13.1 | 27.8 | 14.5 | 17.1 | 3.1 | 3.5 | 8.9 | 15.4 | 0 |
| 3 | 39.7 | 13.7 | 116.4 | 81.3 | 72.4 | 80.6 | 134.9 | 48.6 | 22 | 65.7 | 97.5 | 7.5 |
| 4 | 55.1 | 14.7 | 42.4 | 114.4 | 68.7 | 62.6 | 62.2 | 163.6 | 46.4 | 80 | 125.2 | 27.7 |
| 5 | 84.8 | 17.6 | 13.3 | 16.2 | 23.4 | 23.7 | 26.7 | 90.5 | 264.7 | 120.6 | 99.5 | 67.0 |
| 6 | 20.4 | 22.7 | 8.5 | 2.5 | 5.4 | 8.6 | 11.6 | 56.1 | 95.9 | 122.5 | 103.5 | 101.7 |
| 7 | 7.7 | 9 | 6.1 | 1.2 | 0.8 | 2.4 | 4.8 | 26 | 41.6 | 100.4 | 125 | 49.5 |
| 8 | 2.1 | 2.2 | 2.7 | 0.2 | 0.1 | 0.5 | 1.2 | 11.4 | 15.3 | 31.7 | 53.2 | 59.8 |
| 9 | 0 | 0.6 | 0.6 | 0.6 | 0 | 1.7 | 0.2 | 5.3 | 3.6 | 2.8 | 15.3 | 24.9 |
| 10 | 0 | 0 | 0.1 | 0.2 | 0 | 0.1 | 1 | 1.9 | 0.7 | 0.9 | 0 | 4.7 |
| 11 | 0.7 | 0.1 | 0.1 | 0 | 0 | 0.1 | 0.3 | 1.7 | 0 | 0 | 0 | 1.6 |
| 12 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.4 | 0.7 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## CHUB

- Quota issued in 1999 was 43,582 kg.
- Harvest decreased 89% to 4,069 kg, 9% of the quota (Figure 4-2.6).
- Effort decreased 72% to 151 km (Figure 4-2.7).
- CPUE (harvest + discards) decreased 60% to 49 kg/km (Figure 4-2.8). The discard component decreased to 22 kg/km.
- Based on samples from management area 4-3, age 6 to 8 year olds made up most of the catch, with age 7 being the most abundant age class.
- Overall abundance appeared to decrease in 1999.
- The increasing age of the harvested fish suggests poor recruitment of younger year-classes.
- Overall abundance is expected to decrease in 2000 as older year-classes continue to be fished.

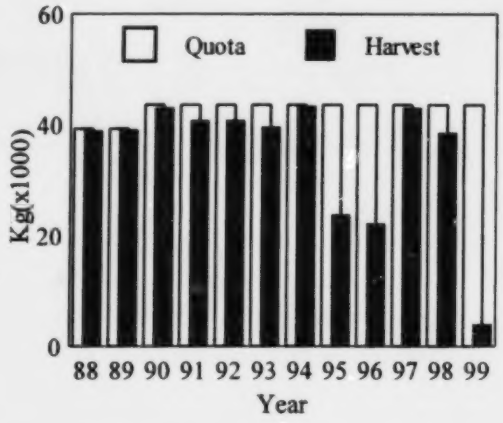



Figure 4-2.6. Chub quota and harvest (kg) for management area 4-2.

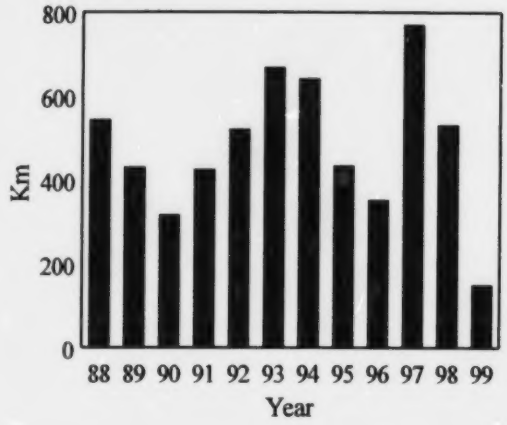



Figure 4-2.7. Chub gill net effort (km) for management area 4-2.

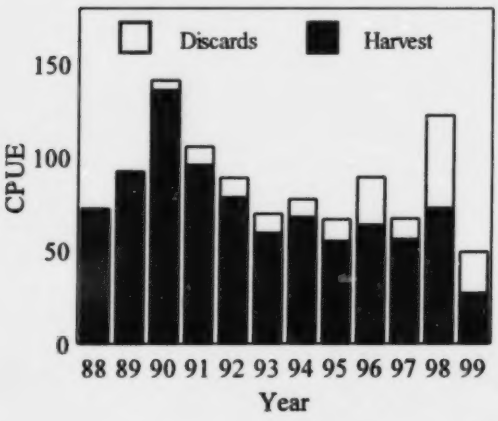



Figure 4-2.8. Chub (harvest+discards) for gill net CPUE (kg/km) for management area 4-2. CPUE corrected for discarding.

Table 4-2.8. Estimated number of harvested and discarded chub in gill nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 23 | 931 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 231 | 227 | 428 | 2459 | 1094 | 466 | 219 | 0 | 0 | 716 | 0 | |
| 4 | 1863 | 172 | 664 | 1524 | 9241 | 2991 | 1283 | 0 | 1900 | 2659 | 45882 | N |
| 5 | 33715 | 9598 | 11731 | 5810 | 11072 | 10411 | 8181 | 3017 | 10551 | 14782 | 127023 | O |
| 6 | 63111 | 61395 | 47249 | 26913 | 34371 | 23839 | 49156 | 20917 | 30503 | 46910 | 92466 | |
| 7 | 58561 | 63761 | 82831 | 71828 | 73411 | 61551 | 57476 | 46420 | 70917 | 74145 | 85217 | D |
| 8 | 24246 | 43697 | 53111 | 67460 | 61846 | 69967 | 67830 | 45645 | 40686 | 87537 | 31441 | A |
| 9 | 6799 | 15810 | 9320 | 32433 | 24056 | 52195 | 53653 | 28799 | 29753 | 42706 | 15749 | T |
| 10 | 1497 | 4630 | 3564 | 4866 | 6004 | 17958 | 19079 | 9096 | 9020 | 10818 | 5390 | A |
| 11 | 312 | 379 | 0 | 911 | 0 | 2313 | 5342 | 3237 | 1845 | 4347 | 0 | |
| 12 | 0 | 0 | 0 | 419 | 293 | 591 | 0 | 203 | 0 | 0 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 547 | 0 | 0 | 0 | 1078 | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mean Age | 6.4 | 6.7 | 6.8 | 7.4 | 7.1 | 7.6 | 7.6 | 7.8 | 7.5 | 7.2 | 5.8 | |

Table 4-2.9. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in management area 4-2.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 0.1 | 2.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 0.4 | 0.5 | 1.4 | 5.8 | 2.1 | 0.7 | 0.3 | 0 | 0 | 0.9 | 0 | |
| 4 | 3.4 | 0.4 | 2.1 | 3.6 | 17.6 | 4.5 | 2 | 0 | 5.4 | 3.5 | 86.2 | N |
| 5 | 62 | 22.3 | 37 | 13.6 | 21 | 15.6 | 12.7 | 6.9 | 29.9 | 19.2 | 238.8 | O |
| 6 | 116 | 142.4 | 149 | 63.2 | 65.3 | 35.7 | 76.6 | 48.1 | 86.5 | 60.8 | 173.8 | |
| 7 | 107.7 | 147.9 | 261.2 | 168.6 | 139.4 | 92.1 | 89.5 | 106.8 | 201.1 | 96.2 | 160.2 | D |
| 8 | 44.6 | 101.4 | 167.5 | 158.4 | 117.4 | 104.7 | 105.7 | 105 | 115.4 | 113.5 | 59.1 | A |
| 9 | 12.5 | 36.7 | 29.4 | 76.1 | 45.7 | 78.1 | 83.6 | 66.3 | 84.4 | 55.4 | 29.6 | T |
| 10 | 2.8 | 10.7 | 11.2 | 11.4 | 11.4 | 26.9 | 29.7 | 20.9 | 25.6 | 14 | 10.1 | A |
| 11 | 0.6 | 0.9 | 0 | 2.1 | 0 | 3.5 | 8.3 | 7.5 | 5.2 | 5.6 | 0 | |
| 12 | 0 | 0 | 0 | 1 | 0.6 | 0.9 | 0 | 0.5 | 0 | 0 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.9 | 0 | 0 | 0 | 2 | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Note: corrected for discards.

## MANAGEMENT AREA 4-3

### GENERAL

- Quota issued was 175,629 kg, including a lake trout allowance of 5,106 kg (Table 4-3.1).
- Harvest of all fish species under quota control decreased 14% to 157,082 kg. Estimated value of the harvest of species under quota control increased to $362,094.
- Harvest and estimated value of all fish species sold was 157,150 kg and $362,150 respectively. An additional 16,553 kg of fish of no commercial value was reported caught.

Table 4-3.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-3 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 3,699 | 9 | 0.2 | 9 | 6 |
| Chub | 36,727 | 36,067 | 98.2 | 44,931 | 107,343 |
| Lake Sturgeon | 58 | 0 | 0 0 | 0 | 0 |
| Lake Trout | 6,840 | 4,772 | 69.8 | 4,787 | 8,732 |
| Lake Whitefish | 126,190 | 116,226 | 92.1 | 116,226 | 245,981 |
| Northern Pike | 540 | 0 | 0.0 | 0 | 0 |
| Walleye | 550 | 8 | 1.5 | 8 | 32 |
| Yellow Perch | 1,025 | 0 | 0.0 | 0 | 0 |
| Alewife | | 0 | | 237 | 0 |
| Burbot | | 0 | | 6,469 | 0 |
| Chinook Salmon | | 0 | | 96 | 0 |
| Common Carp | | 21 | | 21 | 12 |
| Gizzard Shad | | 0 | | 2 | 0 |
| Lake Herring | | 47 | | 47 | 44 |
| Rainbow Smelt | | 0 | | 4 | 0 |
| Rainbow Trout | | 0 | | 14 | 0 |
| Round Whitefish | | 0 | | 4 | 0 |
| Suckers | | 0 | | 544 | 0 |
| Other/Mixed | | 0 | | 304 | 0 |
| Total | 175,629 | 157,150 | | 173,703 | 362,150 |

## LAKE WHITEFISH

- The quota issued was 126,190 kg.
- The harvest decreased 12% to 116,226 kg, 92% of the quota (Figure 4-3.1).
- Gill net effort decreased 10% to 720 km (Figure 4-3.2).
- CPUE increased 10% to 161 kg/km (Figure 4-3.3).
- Age 7, 8 and 9 fish dominated the commercial harvest in 1999, with 8 year olds (1991 year-class) being most abundant (Tables 4-3.2,4-3.3). Mean age of the harvested fish increased again in 1999.
- Abundance increased slightly in 1999 as the strong 1991 year-class supported much of the fishery.
- Exploitable biomass is projected to increase slightly in 2000 (Figure 4-3.4).

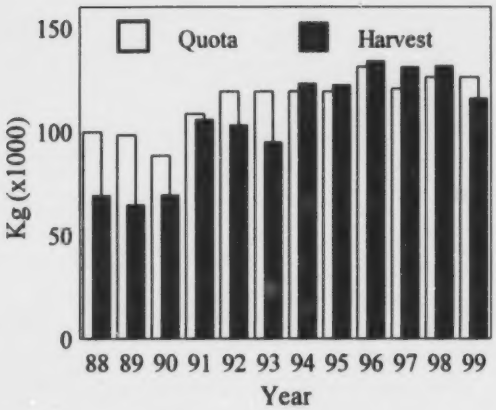



Figure 4-3.1. Lake whitefish quota and harvest (kg) for management area 4-3.

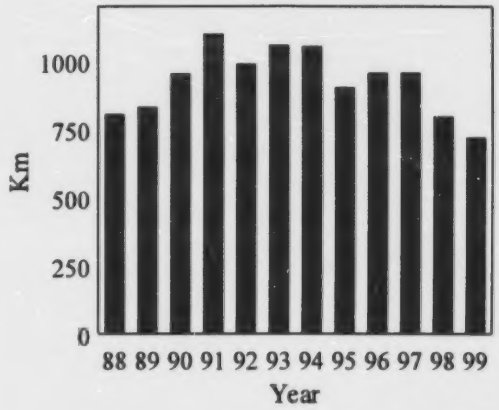



Figure 4-3.2. Lake whitefish gill net effort (km) for management area 4-3.

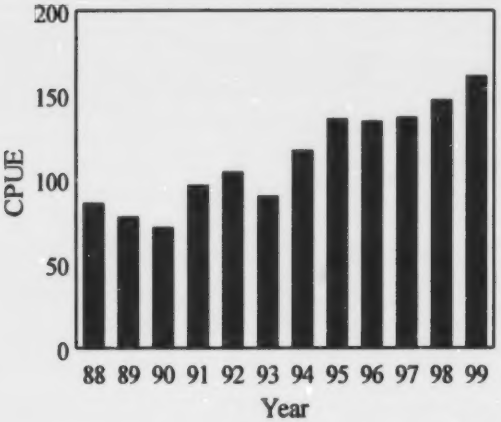



Figure 4-3.3. Lake whitefish annual gill net CPUE (kg/km) for management area 4-3.

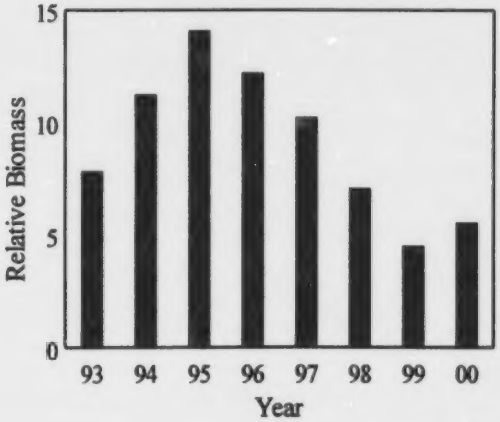



Figure 4-3.4. Exploitable biomass of whitefish (ages 4-10) in management area 4-3.

Table 4-3.2. Estimated number of lake whitefish harvested in gill nets in management area 4-3.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 163 | 231 | 428 | 2062 | 2847 | 1363 | 398 | 0 | 58 | 0 | 0 | 0 |
| 4 | 5287 | 5805 | 14340 | 34909 | 18010 | 20483 | 12118 | 8652 | 993 | 327 | 417 | 0 |
| 5 | 22619 | 12722 | 11269 | 27607 | 32452 | 19490 | 26379 | 16967 | 27876 | 12448 | 6085 | 0 |
| 6 | 16525 | 15430 | 7915 | 4621 | 9812 | 17556 | 18436 | 30392 | 37272 | 36517 | 13134 | 8678 |
| 7 | 3064 | 6422 | 4474 | 1291 | 2124 | 5721 | 12428 | 12491 | 20530 | 29823 | 37584 | 17907 |
| 8 | 658 | 1384 | 4514 | 1311 | 628 | 1015 | 5087 | 8088 | 6374 | 7550 | 17033 | 26363 |
| 9 | 123 | 579 | 1063 | 1074 | 701 | 326 | 1286 | 3579 | 1858 | 1892 | 4205 | 13286 |
| 10 | 172 | 250 | 331 | 1075 | 915 | 320 | 870 | 631 | 548 | 2392 | 2701 | 5348 |
| 11 | 93 | 0 | 248 | 204 | 355 | 165 | 376 | 741 | 0 | 707 | 194 | 397 |
| 12 | 0 | 0 | 152 | 0 | 58 | 83 | 353 | 320 | 108 | 269 | 223 | 0 |
| 13 | 0 | 0 | 124 | 0 | 0 | 0 | 78 | 129 | 0 | 0 | 223 | 0 |
| >13 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 96 | 0 | 0 | 0 | 0 |
| Mean Age | 5.4 | 5.8 | 5.5 | 4.8 | 5.1 | 5.2 | 5.8 | 6.3 | 6.1 | 6.6 | 7.1 | 7.9 |

Table 4-3.3. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 4-3.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.2 | 0.3 | 0.5 | 1.9 | 2.9 | 1.3 | 0.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 4 | 6.6 | 7.0 | 15.1 | 31.8 | 18.2 | 19.4 | 11.5 | 9.6 | 1.0 | 0.3 | 0.5 | 0.0 |
| 5 | 28.1 | 15.3 | 11.8 | 25.1 | 32.9 | 18.4 | 25.0 | 18.8 | 29.2 | 13.0 | 7.7 | 0.0 |
| 6 | 20.5 | 18.6 | 8.3 | 4.2 | 9.9 | 16.6 | 17.5 | 33.7 | 39.0 | 38.2 | 16.6 | 12.1 |
| 7 | 3.8 | 7.7 | 4.7 | 1.2 | 2.2 | 5.4 | 11.8 | 13.8 | 21.5 | 31.2 | 47.4 | 24.9 |
| 8 | 0.8 | 1.7 | 4.7 | 1.2 | 0.6 | 1.0 | 4.8 | 9.0 | 6.7 | 7.9 | 21.5 | 36.6 |
| 9 | 0.2 | 0.7 | 1.1 | 1.0 | 0.7 | 0.3 | 1.2 | 4.0 | 1.9 | 2.0 | 5.3 | 18.5 |
| 10 | 0.2 | 0.3 | 0.4 | 1.0 | 0.9 | 0.3 | 0.8 | 0.7 | 0.6 | 2.5 | 3.4 | 7.4 |
| 11 | 0.1 | 0.0 | 0.3 | 0.2 | 0.4 | 0.2 | 0.4 | 0.8 | 0.0 | 0.7 | 0.2 | 0.6 |
| 12 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.1 | 0.3 | 0.4 | 0.1 | 0.3 | 0.3 | 0.0 |
| 13 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |

## CHUB

- Quota issued was 36,727 kg.
- Harvest decreased 2% to 36,067 kg, slightly over 98% of the quota (Figure 4-3.5).
- Effort increased 162% to 816 km (Figure 4-3.6).
- CPUE (harvest + discards) decreased 67% to 71 kg/km (Figure 4-3.7). The discard component decreased 72% to 26.7 kg/km.
- Age 7 and 8 year old fish were most abundant.
- Overall abundance appeared to decrease in 1999.
- Abundance is expected to decrease in 2000 as less abundant year-classes enter the fishery (Table 4-3.5).

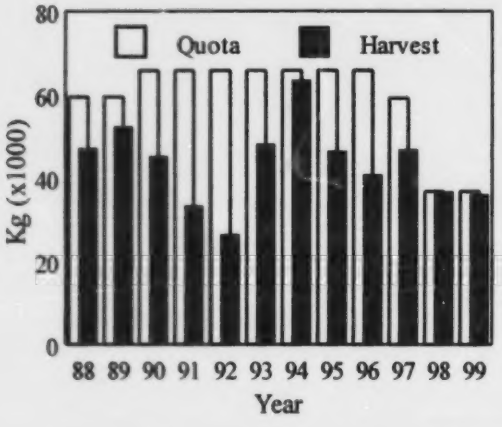



Figure 4-3.5. Chub quota and harvest (kg) for management area 4-3.

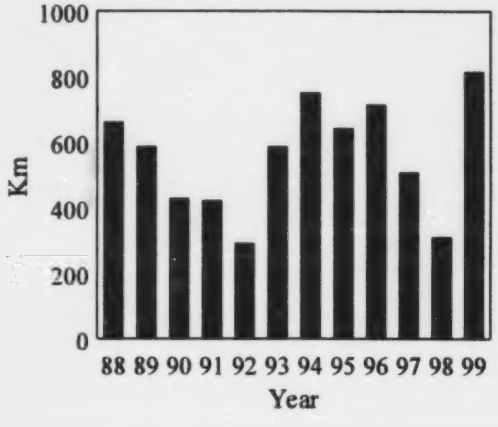



Figure 4-3.6. Chub gill net effort (km) for management area 4-3.

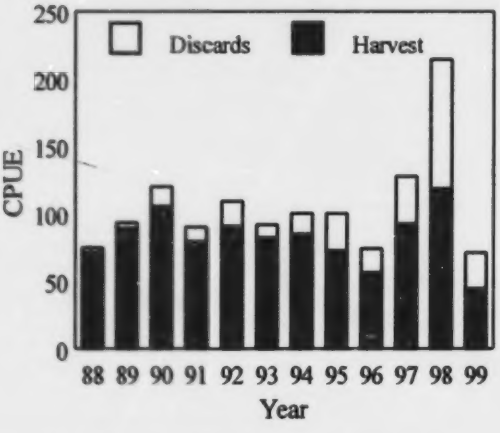



Figure 4-3.7. Chub (harvest+discards) gill net CPUE (kg/km) for management area 4-3. CPUE corrected for discarding.

Table 4-3.4. Estimated number of harvested and discarded chub in gill nets in management area 4-3.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 2320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 179 | 0 | 0 | 214 | 369 | 283 | 244 | 0 | 1319 | 563 | 0 | 0 |
| 4 | 9743 | 746 | 737 | 535 | 5323 | 4563 | 5264 | 7119 | 3270 | 4507 | 54103 | 3957 |
| 5 | 70016 | 22137 | 10268 | 6913 | 6333 | 18074 | 39150 | 24770 | 20513 | 51238 | 145979 | 23203 |
| 6 | 77769 | 90033 | 47434 | 19500 | 40980 | 36529 | 82005 | 85378 | 46998 | 92159 | 101779 | 56728 |
| 7 | 62998 | 88014 | 94890 | 74935 | 53184 | 69980 | 96793 | 93696 | 88261 | 94985 | 85323 | 61771 |
| 8 | 30239 | 38208 | 62466 | 59458 | 33035 | 72482 | 92181 | 92596 | 79270 | 45619 | 23795 | 60221 |
| 9 | 6393 | 8429 | 19470 | 23351 | 14375 | 37952 | 47734 | 50350 | 36216 | 20727 | 11274 | 25531 |
| 10 | 480 | 4150 | 2003 | 2252 | 1655 | 12340 | 18357 | 15732 | 7924 | 1873 | 3419 | 6829 |
| 11 | 0 | 298 | 0 | 1306 | 164 | 783 | 2156 | 2406 | 1267 | 2901 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1138 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 684 | 0 |
| >13 | 0 | 0 | 501 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 6.1 | 6.5 | 7.0 | 7.4 | 7.3 | 7.4 | 7.3 | 7.4 | 7.3 | 6.8 | 7.6 | 7.1 |

Note: corrected for discards.

Table 4-3.5. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in management area 4-3.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.3 | 0.0 | 0.0 | 0.5 | 1.2 | 0.5 | 0.3 | 0.0 | 1.9 | 1.1 | 0.0 | 0.0 |
| 4 | 14.7 | 1.3 | 1.7 | 1.3 | 17.1 | 7.8 | 7.0 | 11.1 | 4.6 | 8.9 | 174.0 | 4.9 |
| 5 | 105.7 | 37.7 | 23.9 | 16.4 | 20.3 | 30.8 | 52.2 | 38.6 | 28.7 | 100.8 | 469.4 | 28.4 |
| 6 | 117.4 | 153.4 | 110.6 | 46.2 | 131.6 | 62.3 | 109.3 | 133.0 | 65.8 | 181.4 | 327.3 | 69.5 |
| 7 | 95.1 | 150.0 | 221.2 | 177.7 | 170.7 | 119.3 | 129.0 | 146.0 | 123.5 | 186.9 | 274.4 | 75.7 |
| 8 | 45.6 | 65.1 | 145.6 | 141.0 | 106.1 | 123.6 | 122.8 | 144.3 | 111.0 | 89.8 | 76.5 | 73.8 |
| 9 | 9.7 | 14.4 | 45.4 | 55.4 | 46.2 | 64.7 | 63.6 | 78.4 | 50.7 | 40.8 | 36.3 | 31.3 |
| 10 | 0.7 | 7.1 | 4.7 | 5.3 | 5.3 | 21.0 | 24.5 | 24.5 | 11.1 | 3.7 | 11.0 | 8.4 |
| 11 | 0.0 | 0.5 | 0.0 | 3.1 | 0.5 | 1.3 | 2.9 | 3.8 | 1.8 | 5.7 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 |
| >13 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Note: corrected for discards.

## MANAGEMENT AREA 4-4

### GENERAL

- Quota was 662,623 kg including a lake trout allowance of 5,992 kg (Table 4-4.1).
- Harvest of all fish species under quota control increased 7% to 645,115.

Table 4-4.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-4 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 258,173 | 127,735 | 49.5 | 127,735 | 459,013 |
| Lake Sturgeon | 100 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 7,998 | 15,217 | 190.3 | 15,217 | 28,850 |
| Lake Whitefish | 385,845 | 501,241 | 129.9 | 501,241 | 1,370,236 |
| Northern Pike | 393 | 0 | 0.0 | 0 | 0 |
| Walleye | 742 | 922 | 124.3 | 922 | 4,065 |
| Yellow Perch | 9,372 | 0 | 0.0 | 0 | 0 |
| Total | 662,623 | 645,115 | | 645,115 | 1,862,164 |

## LAKE WHITEFISH

- Quota was 385,845 kg (Figure 4-4.1).
- Total harvest was 501,241 kg, 130% of the quota (Figure 4-4.1).
- Whitefish effort in this management area was unavailable.
- Pre-recruit indices indicated relatively weak 1994 and 1995 year-classes followed by stronger 1996 and 1997 year-classes (Figure 4-4.6).
- Abundance is not expected to change greatly in 2000, as several average year-classes continue to make up the catch.

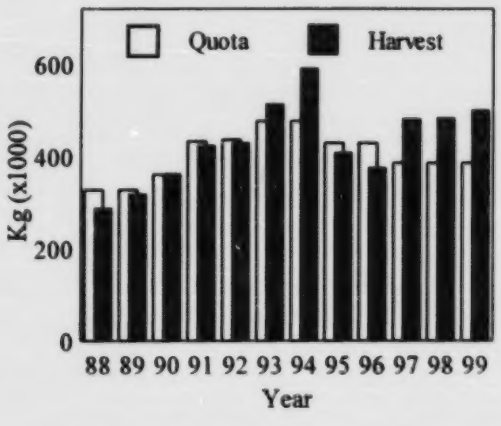



Figure 4-4.1. Lake whitefish quota and harvest (kg) for management area 4-4.

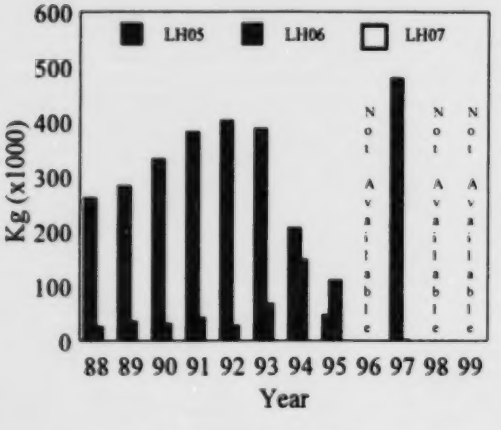



Figure 4-4.2. Lake whitefish harvest (kg) by subarea for management area 4-4.

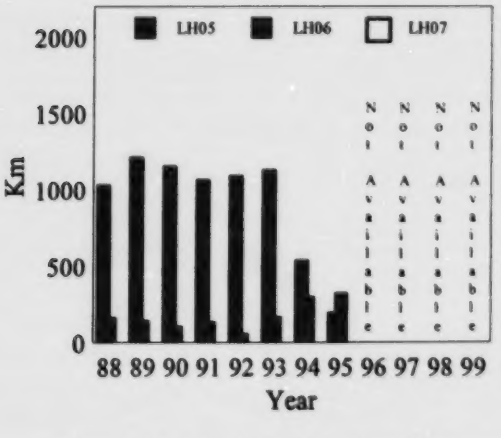



Figure 4-4.3. Lake whitefish gill net effort (km) by subarea for management area 4-4.

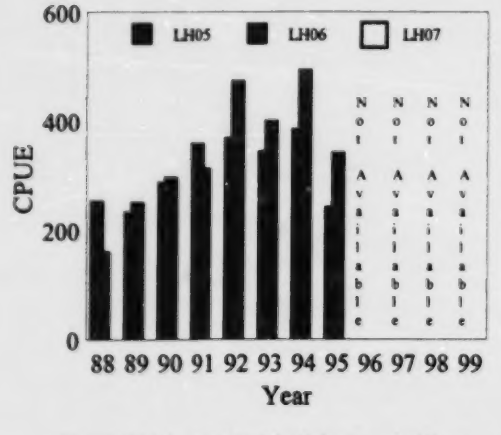



Figure 4-4.4. Lake whitefish annual gill net CPUE (kg/km) for management area 4-4.

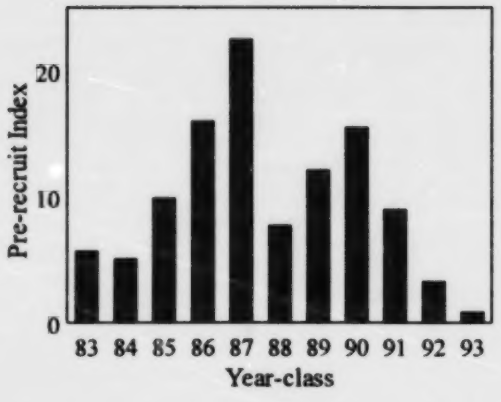



Figure 4-4.5. Indices of year-class strength for lake whitefish from index gillnetting in management area 4-4, using multi-filament nets.

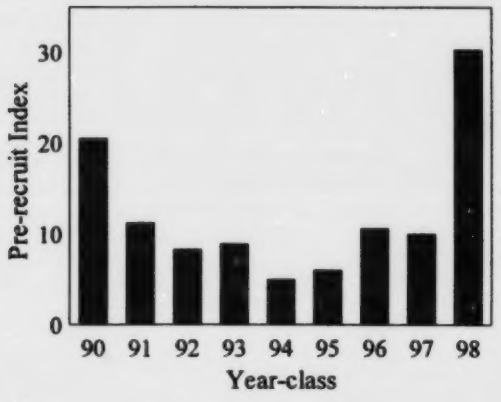



Figure 4-4.6. Indices of year-class strength for lake whitefish from index gillnetting in management area 4-4, using monofilament nets.

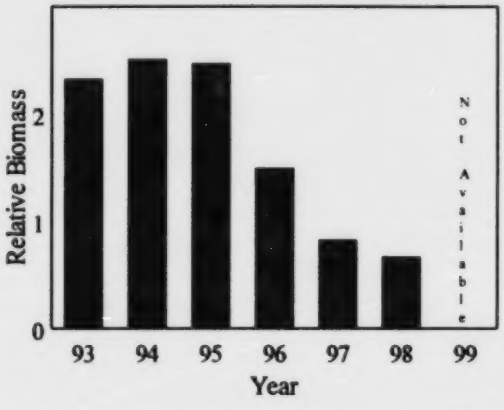



Figure 4-4.7. Exploitable biomass of lake whitefish (ages 4-10) in management area 4-4 to 1998.

Table 4-4.2. Estimated number of lake whitefish harvested in gill nets in management area 4-4.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N | N |
| 3 | 16471 | 4313 | 6620 | 6946 | 3769 | 961 | 1214 | 31 | 0 | 0 | O | O |
| 4 | 78137 | 150873 | 129856 | 131869 | 40491 | 65628 | 41521 | 8511 | 1601 | 894 | T | T |
| 5 | 42774 | 36958 | 95058 | 101877 | 169470 | 95219 | 184132 | 93191 | 81758 | 16543 | | |
| 6 | 19099 | 9123 | 20719 | 34312 | 56235 | 117982 | 92745 | 73771 | 138452 | 89994 | A | A |
| 7 | 9385 | 7926 | 9605 | 8343 | 22181 | 36462 | 57101 | 30411 | 48679 | 85017 | V | V |
| 8 | 2995 | 1701 | 8490 | 3502 | 3321 | 18016 | 17758 | 14300 | 14266 | 33075 | A | A |
| 9 | 1035 | 2722 | 5168 | 1644 | 1731 | 4574 | 5278 | 5260 | 4667 | 7021 | I | I |
| 10 | 445 | 794 | 372 | 1483 | 673 | 2504 | 2699 | 1938 | 785 | 2174 | L | L |
| 11 | 0 | 0 | 0 | 411 | 530 | 1612 | 815 | 387 | 10 | 135 | A | A |
| 12 | 155 | 0 | 0 | 809 | 265 | 674 | 1327 | 269 | 6 | 135 | B | B |
| 13 | 0 | 0 | 1103 | 0 | 0 | 345 | 0 | 277 | 0 | 135 | L | L |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E | E |
| Mean Age | 4.7 | 4.4 | 4.9 | 4.8 | 5.3 | 5.8 | 5.6 | 6.1 | 6.0 | 6.5 | | |

Table 4-4.3. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 4-4.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | O | O | O |
| 3 | 16.0 | 3.6 | 5.8 | 6.6 | 3.3 | 0.5 | 1.5 | 0.1 | 0.0 | T | T | T |
| 4 | 76.0 | 124.7 | 112.7 | 125.5 | 34.9 | 44.1 | 49.7 | 4.9 | 6.6 | | | |
| 5 | 41.6 | 30.5 | 82.5 | 96.9 | 146.1 | 62.5 | 220.6 | 69.1 | 41.1 | A | A | A |
| 6 | 18.6 | 7.5 | 18.0 | 32.6 | 48.5 | 81.4 | 111.1 | 73.9 | 66.8 | V | V | V |
| 7 | 9.1 | 6.6 | 8.3 | 7.9 | 19.2 | 25.8 | 68.4 | 30.1 | 32.8 | A | A | A |
| 8 | 2.9 | 1.4 | 7.4 | 3.3 | 2.9 | 13.2 | 21.3 | 14.2 | 13.6 | I | I | I |
| 9 | 1.1 | 2.3 | 4.5 | 1.6 | 1.5 | 3.5 | 6.3 | 5.6 | 4.3 | L | L | L |
| 10 | 0.4 | 0.7 | 0.3 | 1.4 | 0.6 | 2.0 | 3.2 | 2.9 | 1.3 | A | A | A |
| 11 | 0.0 | 0.0 | 0.0 | 0.4 | 0.5 | 1.2 | 1.0 | 0.6 | 1.0 | B | B | B |
| 12 | 0.2 | 0.0 | 0.0 | 0.8 | 0.2 | 0.5 | 1.6 | 0.1 | 0.6 | L | L | L |
| 13 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.3 | 0.0 | E | E | E |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |

## CHUB

- Quota was 258,173 kg (Figure 4-4.8).
- Total harvest was 127,735 kg, 50% of the final quota.
- Effort information was not available.
- Abundance is expected to decline in 2000 as weaker recent year-classes (Figure 4-4.14) move through the fishery.

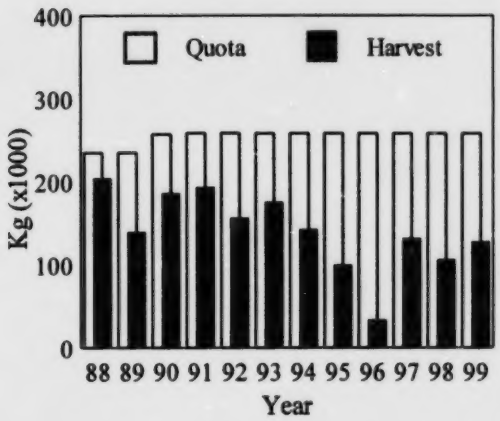



Figure 4-4.8. Chub quota and harvest (kg) for management area 4-4.

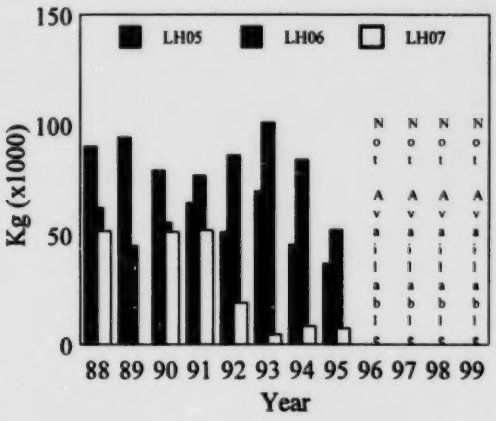



Figure 4-4.9. Chub harvest (kg) by subarea for management area 4-4.

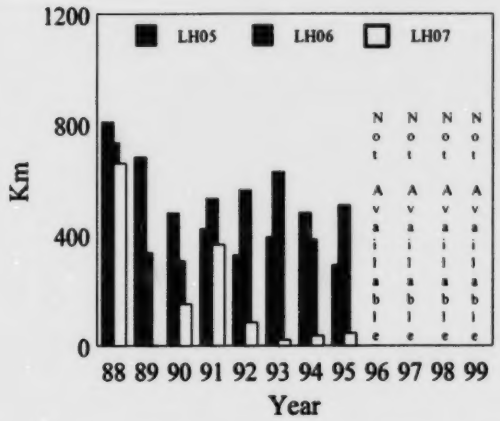



Figure 4-4.10. Chub gill net effort (km) by subarea for management area 4-4.

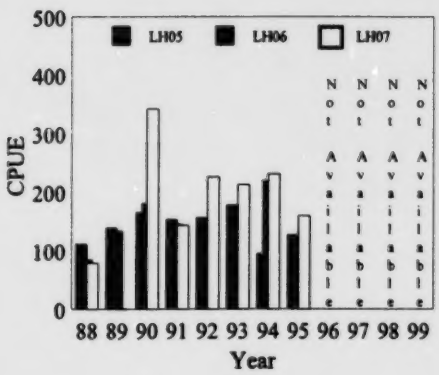



Figure 4-4.11. Chub gill net CPUE (kg/km) by subarea for management area 4-4.

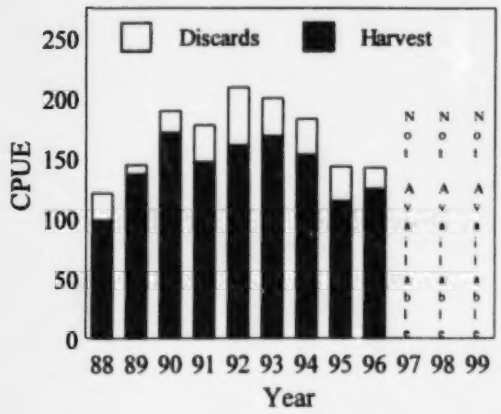



Figure 4-4.12. Chub (harvest + discards) gill net CPUE (kg/km) for management area 4-4. CPUE corrected for discarding.

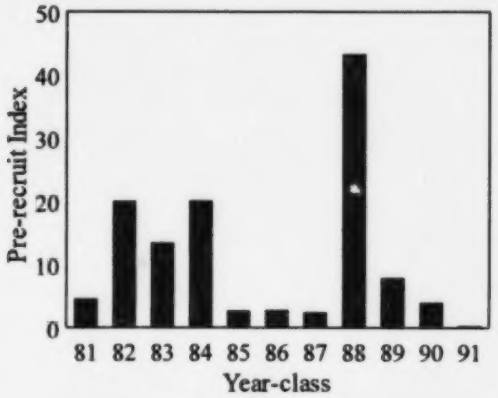



Figure 4-4.13. Indices of year-class strength for chub from gillnetting in management area 4-4, using multi-filament nets.

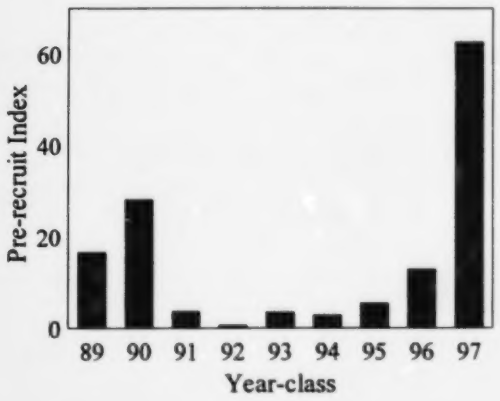



Figure 4-4.14. Indices of year-class strength for chub from index gillnetting in management area 4-4, using monofilament nets.

Table 4-4.4. Estimated number of harvested and discarded chub in gill nets in assessment area LH05 (subarea of management area 4-4).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | 0 | 0 | 1383 | 0 | 0 | 519 | 0 | 0 | 0 | 0 | N | N |
| 3 | 22957 | 726 | 0 | 1306 | 692 | 1104 | 0 | 415 | 0 | 388 | O | O |
| 4 | 119011 | 1568 | 0 | 1048 | 5726 | 7385 | 3813 | 2977 | 174 | 13767 | T | T |
| 5 | 252048 | 117513 | 22806 | 12699 | 7510 | 20243 | 37131 | 26965 | 1290 | 116946 | | |
| 6 | 200703 | 272661 | 171302 | 43386 | 40570 | 71809 | 76211 | 65509 | 3893 | 141011 | A | A |
| 7 | 88463 | 81690 | 121108 | 155035 | 92933 | 113487 | 84946 | 67555 | 5887 | 87899 | V | V |
| 8 | 14512 | 21952 | 75496 | 59818 | 89200 | 100147 | 68635 | 48074 | 3714 | 31191 | A | A |
| 9 | 2286 | 0 | 8379 | 19557 | 25111 | 45116 | 28349 | 17737 | 1652 | 4730 | I | I |
| 10 | 1250 | 0 | 0 | 1120 | 4700 | 12646 | 10899 | 4124 | 184 | 865 | L | L |
| 11 | 0 | 0 | 2332 | 0 | 374 | 3786 | 1188 | 851 | 68 | 0 | A | A |
| 12 | 0 | 0 | 2332 | 0 | 0 | 697 | 0 | 0 | 0 | 0 | B | B |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | L | L |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E | E |
| Mean Age | 5.6 | 5.9 | 6.7 | 6.9 | 7.1 | 7.4 | 7.0 | 6.8 | 7.4 | 6.0 | | |

Note: corrected for discards.

Table 4-4.5. Estimated number of harvested and discarded chub in gill nets in assessment area LH06 (subarea of management area 4-4).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N | N |
| 3 | 0 | 0 | 0 | 3953 | 357 | 484 | 287 | 813 | 0 | 0 | O | O |
| 4 | 13710 | 3470 | 287 | 991 | 12258 | 5762 | 3840 | 3548 | 635 | 597 | T | T |
| 5 | 85853 | 57901 | 14660 | 12217 | 15989 | 37301 | 31012 | 34029 | 8949 | 5479 | | |
| 6 | 153753 | 106405 | 84791 | 71575 | 74671 | 60878 | 110054 | 93992 | 36526 | 13295 | A | A |
| 7 | 35908 | 50441 | 98468 | 212550 | 168134 | 131325 | 97677 | 114656 | 60144 | 23334 | V | V |
| 8 | 27421 | 12562 | 50325 | 89781 | 152669 | 162137 | 146797 | 66737 | 40386 | 20261 | A | A |
| 9 | 8487 | 5947 | 10531 | 27713 | 39077 | 86354 | 80307 | 31699 | 15722 | 7214 | I | I |
| 10 | 0 | 1101 | 3038 | 6056 | 5198 | 30673 | 38663 | 6043 | 6113 | 840 | L | L |
| 11 | 653 | 0 | 1452 | 0 | 0 | 4757 | 5311 | 3949 | 1123 | 628 | A | A |
| 12 | 980 | 0 | 0 | 0 | 0 | 1666 | 1327 | 0 | 0 | 0 | B | B |
| 13 | 0 | 0 | 0 | 0 | 240 | 0 | 1327 | 0 | 0 | 0 | L | L |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E | E |
| Mean Age | 6.0 | 6.0 | 6.8 | 7.1 | 7.1 | 7.4 | 7.2 | 7.0 | 7.2 | 7.3 | | |

Note: corrected for discards 1989 onward

Table 4-4.6. CPUE-at-age (number/km) of harvested and discarded chub in gill nets in assessment area LH05 (subarea of management area 4-4).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N |
| 2 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | O | O | O |
| 3 | 28.3 | 1.1 | 0.0 | 3.3 | 2.0 | 2.8 | 0.0 | 1.4 | 0.0 | T | T | T |
| 4 | 146.9 | 2.3 | 0.0 | 2.7 | 16.8 | 18.8 | 7.9 | 10.2 | 0.0 | | | |
| 5 | 311.1 | 172.4 | 47.5 | 32.3 | 22.0 | 51.5 | 77.1 | 92.4 | 22.1 | A | A | A |
| 6 | 247.8 | 400.0 | 356.5 | 110.3 | 118.8 | 182.7 | 158.2 | 224.5 | 120.9 | V | V | V |
| 7 | 109.2 | 119.9 | 252.1 | 394.3 | 272.1 | 288.7 | 176.3 | 231.5 | 247.3 | A | A | A |
| 8 | 17.9 | 32.2 | 157.1 | 152.1 | 261.1 | 254.7 | 142.5 | 164.8 | 254.9 | I | I | I |
| 9 | 2.8 | 0.0 | 17.4 | 49.7 | 73.5 | 114.8 | 58.8 | 60.8 | 95.8 | L | L | L |
| 10 | 1.5 | 0.0 | 0.0 | 2.9 | 13.8 | 32.2 | 22.6 | 14.1 | 6.1 | A | A | A |
| 11 | 0.0 | 0.0 | 4.9 | 0.0 | 1.1 | 9.6 | 2.5 | 2.9 | 6.1 | B | B | B |
| 12 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 | L | L | L |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | E | E | E |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |

Note: corrected for discards.

Table 4-4.7. CPUE-at-age-(number/km) for harvested and discarded chub in gill nets in assessment area LH06 (subarea of management area 4-4).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | N |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | O | O | O |
| 3 | 0.0 | 0.0 | 0.0 | 7.4 | 0.6 | 0.8 | 0.8 | 1.6 | 0.0 | T | T | T |
| 4 | 18.7 | 10.3 | 0.9 | 1.9 | 21.8 | 9.2 | 10.0 | 7.0 | 2.7 | | | |
| 5 | 116.8 | 171.6 | 47.6 | 23.0 | 28.4 | 59.5 | 80.5 | 66.9 | 37.7 | A | A | A |
| 6 | 209.2 | 315.4 | 275.1 | 134.7 | 132.6 | 97.1 | 285.8 | 184.7 | 153.8 | V | V | V |
| 7 | 48.9 | 149.5 | 319.5 | 399.9 | 298.6 | 209.5 | 253.7 | 225.3 | 253.2 | A | A | A |
| 8 | 37.3 | 37.2 | 163.3 | 168.9 | 271.1 | 258.7 | 381.2 | 131.1 | 170.0 | I | I | I |
| 9 | 11.6 | 17.6 | 34.2 | 52.1 | 69.4 | 137.8 | 208.6 | 62.3 | 66.2 | L | L | L |
| 10 | 0.0 | 3.3 | 9.9 | 11.4 | 9.2 | 48.9 | 100.4 | 11.9 | 25.7 | A | A | A |
| 11 | 0.9 | 0.0 | 4.7 | 0.0 | 0.0 | 7.6 | 13.8 | 7.8 | 4.7 | B | B | B |
| 12 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 3.5 | 0.0 | 0.0 | L | L | L |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 3.5 | 0.0 | 0.0 | E | E | E |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |

Note: corrected for discards 1989 onward

## YELLOW PERCH

- Quota was 9,372 kg (Figure 4-4.15).
- No harvest occurred in 1999 (Figure 4-4.15).
- Index fishing revealed that the majority of recent year-classes were of very low abundance (Figure 4-4.20).
- Yellow perch abundance in this area is greatly reduced relative to past years. A quite strong 1998 year-class indicates that abundance may increase in 2000.

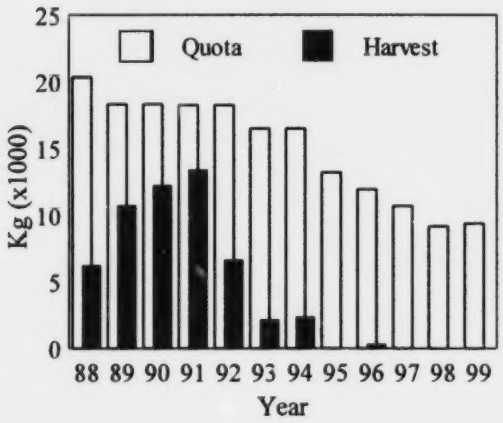



Figure 4-4.15. Yellow perch quota and harvest (kg) for management area 4-4.

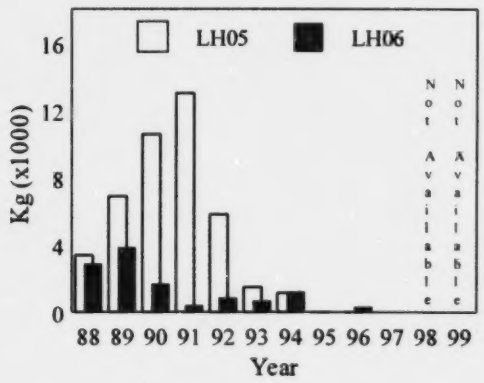



Figure 4-4.16. Yellow perch harvest (kg) by subarea for management area 4-4.

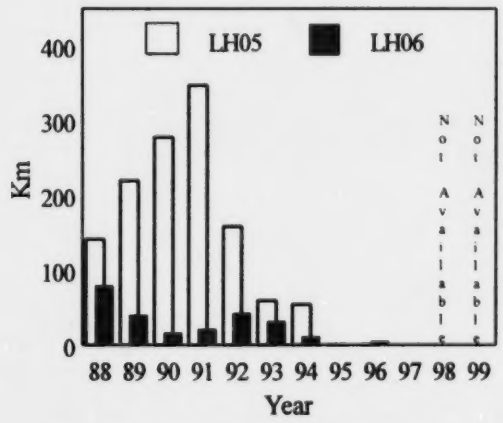



Figure 4-4.17. Yellow perch gill net effort (km) by subarea for management area 4-4.

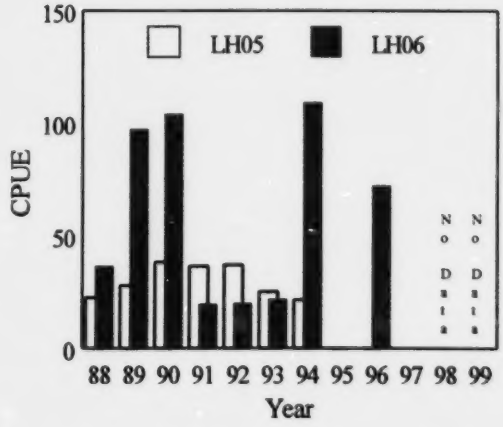



Figure 4-4.18. Yellow perch gill net CPUE (kg/km) by subarea for management area 4-4.

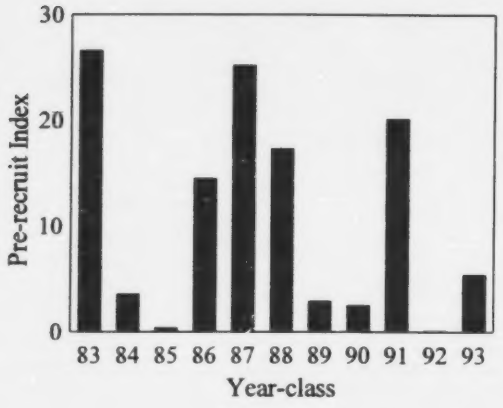



Figure 4-4.19. Indices of year-class strength for yellow perch from index gillnetting in management area 4-4, using multi-filament nets.

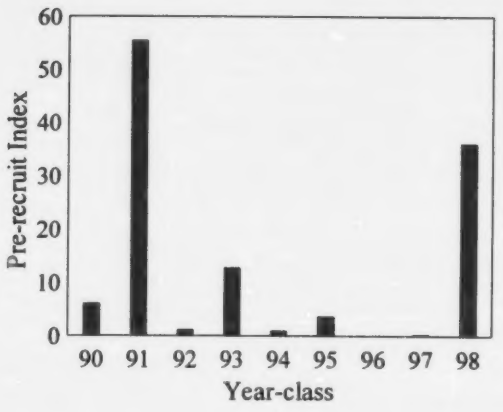



Figure 4-4.20. Indices of year-class strength for yellow perch from index gillnetting in management area 4-4, using monofilament nets.

## LAKE TROUT/BACKCROSS

- Quota was 2,006 kg (Figure 4-4.21). An additional allowance of 5,992 kg was available to the fishery for a total allowable harvest of 7,998 kg.
- Total harvest increased 79% to 15,217 kg, 759% of the quota (Figure 4-4.21) and 190% of the total allowable catch.

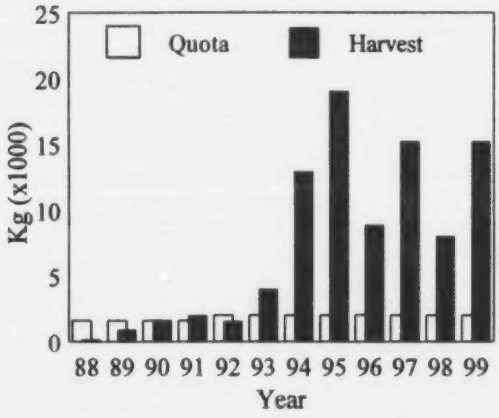



Figure 4-4.21. Lake trout/backcross quota and harvest (kg) for management area 4-4.

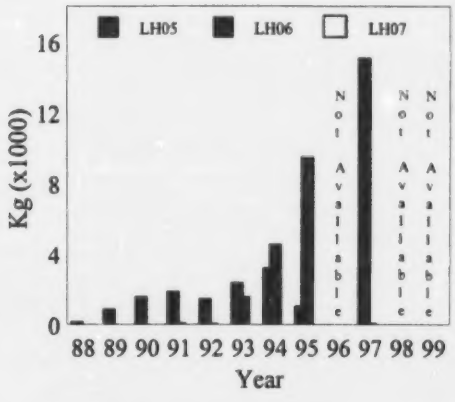



Figure 4-4.22. Lake trout/backcross harvest (kg) by subarea for management area 4-4.

## MANAGEMENT AREA 4-5

### GENERAL

- Quota issued on commercial fishing licences was 1,703,935 kg including a lake trout allowance of 3,732 kg (Table 4-5.1).
- Harvest of all fish species under quota control increased 2% to 1,447,319 kg. Estimated value of the harvest of species under quota control increased 16% to $4,463,828.
- Harvest and estimated value of all fish species sold was 1,483,000 kg and $4,478,020, respectively.
- An additional 19,097 kg of fish of no commercial value was reported caught.

Table 4-5.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-5 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 46,955 | 25,437 | 54.2 | 25,437 | 28,038 |
| Chub | 136,549 | 9,039 | 6.6 | 9,039 | 32,482 |
| Lake Sturgeon | 4,240 | 3,628 | 85.6 | 4,308 | 23,116 |
| Lake Trout | 40,406 | 47,875 | 118.5 | 56,381 | 90,768 |
| Lake Whitefish | 1,207,067 | 1,168,981 | 96.8 | 1,168,981 | 3,195,628 |
| Northern Pike | 227 | 0 | 0.0 | 0 | 0 |
| Walleye | 123,697 | 80,931 | 65.4 | 81,997 | 356,840 |
| Yellow Perch | 144,794 | 111,428 | 77.0 | 111,428 | 736,956 |
| Bigmouth Buffalo | | 51 | | 51 | 0 |
| Burbot | | 268 | | 268 | 0 |
| Freshwater Drum | | 30,429 | | 30,429 | 13,417 |
| Gizzard Shad | | 755 | | 9,600 | 0 |
| Rainbow Smelt | | 2 | | 2 | 0 |
| Redhorse Sucker | | 3,613 | | 3,613 | 0 |
| Rock Bass | | 28 | | 28 | 0 |
| Round Whitefish | | 43 | | 43 | 47 |
| Smallmouth Bass | | 3 | | 3 | 0 |
| Suckers | | 64 | | 64 | 0 |
| White Bass | | 381 | | 381 | 680 |
| White Perch | | 44 | | 44 | 48 |
| Total | 1,703,935 | 1,483,000 | | 1,502,097 | 4,478,020 |

## LAKE WHITEFISH

- The quota issued was 1,207,067 kg.
- The harvest increased 0.5% to 1,168,981 kg, 97% of the quota (Figure 4-5.1). The gill net fishery accounted for 94% of the harvest with the remainder coming out of the trap net fishery (Figure 4-5.2).
- Gill net effort increased 6% to 3,135 km (Figure 4-5.3). Trap net effort reported increased 63% to 106 net lifts.
- CPUE in the gill net fishery decreased by 7.5% to 345 kg/km (Figure 4-5.4) while trap net CPUE decreased 12% to 654 kg/net lift.
- Seven, eight, and nine year old fish dominated the harvest. The mean age of the catch continued to increase (Tables 4-5.2,4-5.3).
- Abundance declined slightly in 1999 due to the weaker than usual 1994 to 1996 year-classes entering the fishery (Tables 4-5.5,4-5.6; Figure 4-5.6).
- Exploitable biomass is not expected to change noticeably in 2000 (Figure 4-5.7) as the weak 1992 year-class moves through the fishery and is followed by a stronger 1993 year-class (Figure 4-5.6).

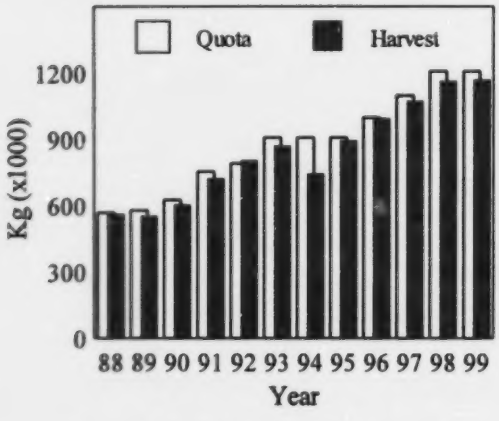



Figure 4-5.1. Lake whitefish quota and harvest (kg) for management area 4-5.

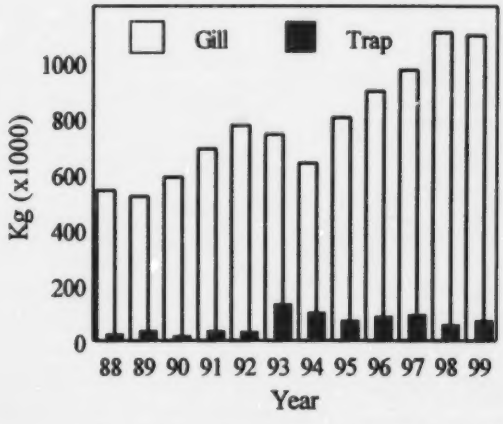



Figure 4-5.2. Lake whitefish harvest (kg) for management area 4-5.

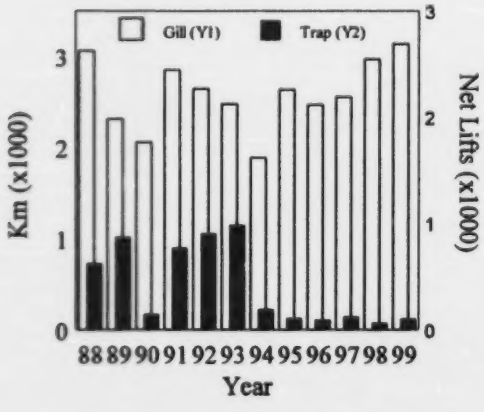



Figure 4-5.3. Lake whitefish gill net (km) and trap net (nets) effort for management area 4-5.

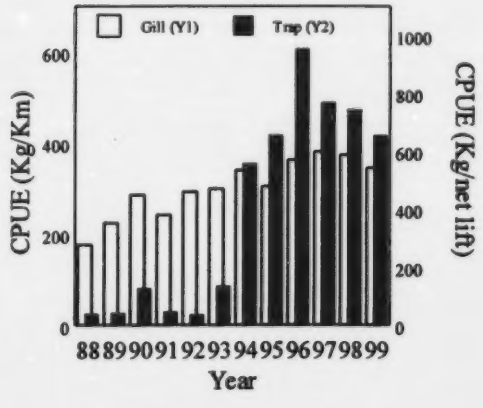



Figure 4-5.4. Lake whitefish CPUE for management area 4-5.

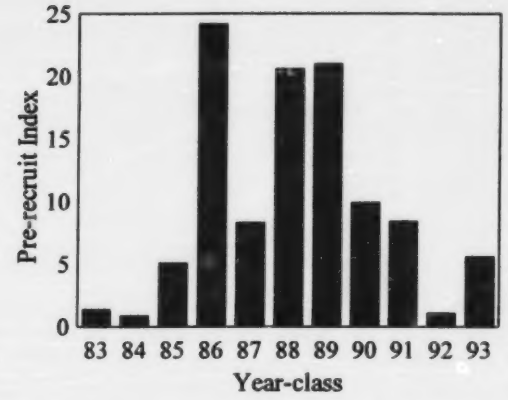



Figure 4-5.5. Indices of year-class strength for lake whitefish from index gillnetting in management area 4-5, using multi-filament nets.

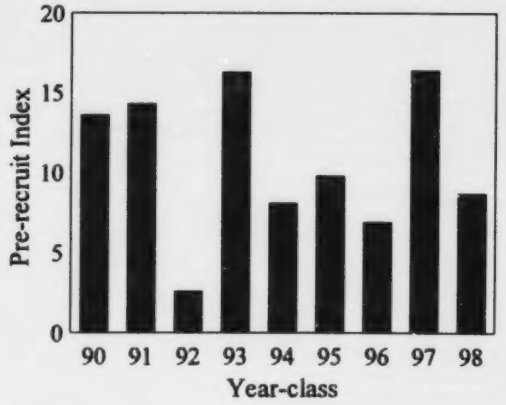



Figure 4-5.6. Indices of year-class strength for lake whitefish from index gillnetting in management area 4-5, using monofilament nets.

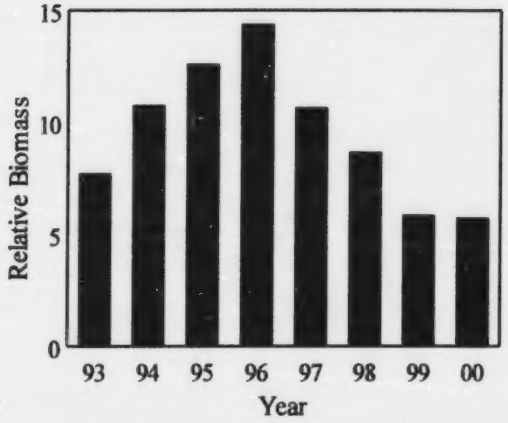



Figure 4-5.7. Exploitable biomass of lake whitefish (ages 4-10) in management area 4-5.

Table 4-5.2. Estimated number of lake whitefish harvested in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 82 | 0 | 358 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 40854 | 6367 | 8162 | 1200 | 447 | 0 | 0 | 124 | 0 | 0 | 0 | 0 |
| 3 | 92502 | 144943 | 74977 | 123214 | 41594 | 10696 | 3625 | 717 | 191 | 0 | 0 | 0 |
| 4 | 52884 | 54603 | 159086 | 71250 | 199357 | 302459 | 83002 | 22515 | 13441 | 6233 | 2724 | 665 |
| 5 | 46242 | 32589 | 36083 | 122220 | 62849 | 136418 | 207767 | 193700 | 101045 | 56325 | 22511 | 25820 |
| 6 | 90621 | 28191 | 16979 | 29571 | 91879 | 33442 | 81122 | 246396 | 256764 | 193063 | 68241 | 98656 |
| 7 | 16090 | 62224 | 22812 | 18882 | 36185 | 37470 | 32249 | 75754 | 151926 | 272008 | 206509 | 187648 |
| 8 | 10970 | 13677 | 44608 | 28888 | 24120 | 16408 | 19387 | 33121 | 59706 | 122827 | 275257 | 269851 |
| 9 | 3528 | 7158 | 15065 | 34724 | 25939 | 11120 | 16147 | 17872 | 20344 | 40895 | 129364 | 183619 |
| 10 | 1241 | 2579 | 9176 | 8076 | 18774 | 9579 | 8164 | 9866 | 9017 | 13000 | 58416 | 47815 |
| 11 | 78 | 545 | 2231 | 2185 | 3982 | 6284 | 4447 | 5945 | 5348 | 5946 | 11548 | 12451 |
| 12 | 308 | 0 | 1151 | 358 | 722 | 400 | 1814 | 2308 | 2306 | 1574 | 5598 | 5855 |
| 13 | 149 | 222 | 0 | 179 | 0 | 0 | 673 | 985 | 378 | 491 | 1160 | 0 |
| >13 | 0 | 222 | 133 | 179 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 4.9 | 4.7 | 4.7 | 5.1 | 5.4 | 5.2 | 5.5 | 6.0 | 6.5 | 6.9 | 7.9 | 7.8 |

Table 4-5.3. Estimated number of lake whitefish harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 10107 | 19332 | 3940 | 7193 | 7409 | 234 | 403 | 1163 | 0 | 0 | 0 | 0 |
| 4 | 2853 | 2180 | 5319 | 5738 | 12666 | 63933 | 14923 | 9587 | 5782 | 254 | 0 | 0 |
| 5 | 1398 | 1090 | 591 | 4157 | 1970 | 27133 | 37529 | 21791 | 23544 | 7601 | 1541 | 2738 |
| 6 | 3319 | 975 | 158 | 1870 | 2363 | 7778 | 12979 | 13083 | 19215 | 35541 | 3084 | 8762 |
| 7 | 504 | 3500 | 118 | 561 | 1129 | 4488 | 5532 | 4218 | 7760 | 24023 | 10794 | 14238 |
| 8 | 317 | 458 | 1182 | 1475 | 933 | 3873 | 2723 | 1986 | 3412 | 7305 | 15419 | 15881 |
| 9 | 112 | 1032 | 158 | 2141 | 679 | 1940 | 1160 | 1439 | 2629 | 1312 | 3854 | 7119 |
| 10 | 0 | 115 | 236 | 436 | 185 | 1666 | 1657 | 1178 | 1002 | 509 | 2313 | 3286 |
| 11 | 38 | 0 | 79 | 332 | 76 | 1616 | 663 | 646 | 313 | 764 | 771 | 1643 |
| 12 | 0 | 0 | 0 | 0 | 92 | 0 | 166 | 0 | 157 | 529 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 162 | 0 | 0 | 0 | 548 |
| >13 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | -- | 4.1 | 4.5 | 5.2 | 4.5 | 5.1 | 5.5 | 5.5 | 5.9 | 6.6 | 7.4 | 7.7 |

Table 4-5.4. Estimated number of harvested and released lake whitefish caught in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 17286 | 6278 | 4057 | 9558 | 9381 | 0 | 0 | 1185 | 355 | 0 | 0 | |
| 3 | 16566 | 36302 | 10466 | 44134 | 99895 | 37167 | 13389 | 5811 | 2586 | 2268 | 0 | |
| 4 | 2853 | 2180 | 5319 | 6065 | 15829 | 105309 | 89412 | 21945 | 15781 | 10584 | 3196 | |
| 5 | 1398 | 1090 | 591 | 4157 | 1970 | 28209 | 41956 | 36416 | 34887 | 12138 | 9849 | N |
| 6 | 3319 | 975 | 158 | 1870 | 2363 | 7802 | 12979 | 14286 | 22666 | 38924 | 4362 | O |
| 7 | 504 | 3500 | 118 | 561 | 1129 | 4788 | 5532 | 4218 | 7760 | 24570 | 10794 | |
| 8 | 317 | 458 | 1182 | 1475 | 933 | 3873 | 2723 | 1986 | 3412 | 7305 | 15419 | D |
| 9 | 112 | 1032 | 158 | 2141 | 679 | 1940 | 1160 | 1439 | 2629 | 1312 | 3854 | A |
| 10 | 0 | 115 | 236 | 436 | 185 | 1666 | 1657 | 1178 | 1002 | 509 | 2313 | T |
| 11 | 38 | 0 | 79 | 332 | 76 | 1616 | 663 | 646 | 313 | 764 | 771 | A |
| 12 | 0 | 0 | 0 | 0 | 92 | 0 | 166 | 0 | 157 | 529 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 162 | 0 | 0 | 0 | |
| >13 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mean Age | -- | 3.7 | 4.0 | 4.6 | 4.1 | 4.7 | 5.1 | 5.1 | 5.5 | 6.0 | 6.6 | |

Table 4-5.5. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 13.4 | 2.8 | 4.0 | 0.4 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 30.2 | 62.7 | 36.5 | 44.1 | 15.2 | 4.3 | 1.9 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 |
| 4 | 17.3 | 23.6 | 77.4 | 25.5 | 72.8 | 122.1 | 44.1 | 8.5 | 5.5 | 2.4 | 0.9 | 0.2 |
| 5 | 15.1 | 14.1 | 17.6 | 43.8 | 23.0 | 55.1 | 110.3 | 73.5 | 41.0 | 22.1 | 7.7 | 8.5 |
| 6 | 29.6 | 12.2 | 8.3 | 10.6 | 33.6 | 13.5 | 43.1 | 93.5 | 104.2 | 75.6 | 23.3 | 32.4 |
| 7 | 5.3 | 26.9 | 11.1 | 6.8 | 13.2 | 15.1 | 17.1 | 28.8 | 61.7 | 106.5 | 70.4 | 61.5 |
| 8 | 3.6 | 5.9 | 21.7 | 10.3 | 8.8 | 6.6 | 10.3 | 12..6 | 24.2 | 48.1 | 93.9 | 88.5 |
| 9 | 1.2 | 3.1 | 7.3 | 12.4 | 9.5 | 4.5 | 8.6 | 6.8 | 8.3 | 16.0 | 44.1 | 60.2 |
| 10 | 0.4 | 1.1 | 4.5 | 2.9 | 6.9 | 3.9 | 4.3 | 3.7 | 3.7 | 5.1 | 20.0 | 15.7 |
| 11 | 0.1 | 0.2 | 1.1 | 0.8 | 1.5 | 2.5 | 2.4 | 2.3 | 2.2 | 2.3 | 3.9 | 4.1 |
| 12 | 0.1 | 0.0 | 0.6 | 0.1 | 0.3 | 0.2 | 1.0 | 0.9 | 0.9 | 0.6 | 1.9 | 1.9 |
| 13 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.4 | 0.4 | 0.2 | 0.2 | 0.4 | 0.0 |
| >13 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 4-5.6. CPUE-at-age (number/net lift) for lake whitefish harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 16.2 | 22.1 | 26.6 | 9.4 | 8.5 | 0.2 | 2.1 | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 4.6 | 2.5 | 35.9 | 7.5 | 14.6 | 65.0 | 76.5 | 86.4 | 62.2 | 2.1 | 0.0 | 0.0 |
| 5 | 2.2 | 1.3 | 4.0 | 5.4 | 2.3 | 27.6 | 192.5 | 196.3 | 253.2 | 61.8 | 23.7 | 26.3 |
| 6 | 5.3 | 1.1 | 1.1 | 2.4 | 2.7 | 7.9 | 66.6 | 117.9 | 206.6 | 289.0 | 47.5 | 84.3 |
| 7 | 0.8 | 4.0 | 0.8 | 0.7 | 1.3 | 4.6 | 28.4 | 38.0 | 83.4 | 195.3 | 166.1 | 137.0 |
| 8 | 0.5 | 0.5 | 8.0 | 1.9 | 1.1 | 3.9 | 14.0 | 17.9 | 36.7 | 59.4 | 237.2 | 152.7 |
| 9 | 0.2 | 1.2 | 1.1 | 2.8 | 0.8 | 2.0 | 6.0 | 13.0 | 28.3 | 10.7 | 59.3 | 68.5 |
| 10 | 0.0 | 0.1 | 1.6 | 0.6 | 0.2 | 1.7 | 8.5 | 10.6 | 10.8 | 4.1 | 35.6 | 31.6 |
| 11 | 0.1 | 0.0 | 0.5 | 0.4 | 0.1 | 1.6 | 3.4 | 5.8 | 3.4 | 6.2 | 11.9 | 15.8 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.9 | 0.0 | 1.7 | 4.3 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 5.3 |
| >13 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 4-5.7. CPUE-at-age (number/net lift) for harvested and released lake whitefish caught in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 2 | 27.6 | 7.2 | 27.4 | 12.4 | 10.8 | 0.0 | 0.0 | 10.7 | 3.8 | 0.0 | 0.0 | |
| 3 | 26.5 | 41.6 | 70.7 | 57.4 | 114.8 | 37.8 | 68.7 | 52.4 | 27.8 | 18.4 | 0.0 | |
| 4 | 4.6 | 2.5 | 35.9 | 7.9 | 18.2 | 107.1 | 458.5 | 197.7 | 169.7 | 86.1 | 49.2 | N |
| 5 | 2.2 | 1.3 | 4.0 | 5.4 | 2.3 | 28.7 | 215.2 | 328.1 | 375.1 | 98.7 | 151.5 | O |
| 6 | 5.3 | 1.1 | 1.1 | 2.4 | 2.7 | 7.9 | 66.6 | 128.7 | 243.7 | 316.5 | 67.1 | |
| 7 | 0.8 | 4.0 | 0.8 | 0.7 | 1.3 | 4.9 | 28.4 | 38.0 | 83.4 | 199.8 | 166.1 | D |
| 8 | 0.5 | 0.5 | 8.0 | 1.9 | 1.1 | 3.9 | 14.0 | 17.9 | 36.7 | 59.4 | 237.2 | A |
| 9 | 0.2 | 1.2 | 1.1 | 2.8 | 0.8 | 2.0 | 6.0 | 13.0 | 28.3 | 10.7 | 59.3 | T |
| 10 | 0.0 | 0.1 | 1.6 | 0.6 | 0.2 | 1.7 | 8.5 | 10.6 | 10.8 | 4.1 | 35.6 | A |
| 11 | 0.1 | 0.0 | 0.5 | 0.4 | 0.1 | 1.6 | 3.4 | 5.8 | 3.4 | 6.2 | 11.9 | |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.9 | 0.0 | 1.7 | 4.3 | 0.0 | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | |
| >13 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

## CHUB

- Quota issued was 136,549 kg.
- Harvest increased 370% to 9,039 kg, 6.6% of the quota (Figure 4-5.8).
- Effort increased 108% to 54 km (Figure 4-5.9).
- CPUE (harvest + discards) decreased 6% to 166 kg/km (Figure 4-5.10).
- There were no observed discards.
- Index fishing indicated that the 1992 to 1994 year-classes are weaker than average (Figure 4-5.12).
- Abundance of harvested plus discarded chub was unchanged in 1999.
- Overall abundance is expected to decline in 2000 as the fishery will be dependent on fewer, younger year-classes than previously.

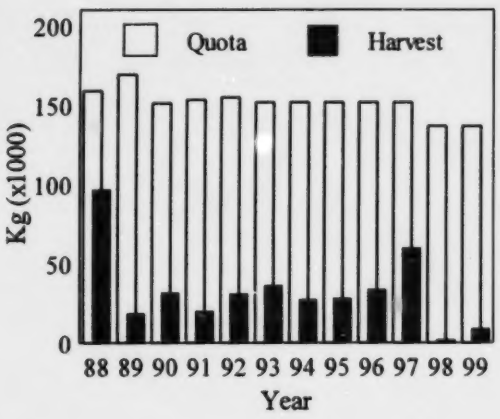



Figure 4-5.8. Chub quota and harvest (kg) for management area 4-5.

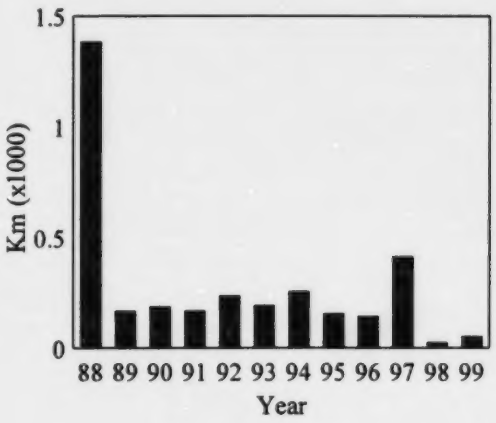



Figure 4-5.9. Chub gill net effort (km) for management area 4-5.

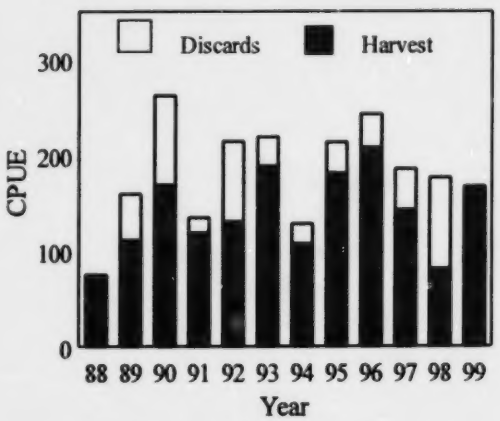



Figure 4-5.10. Chub (harvest+discards) gill net CPUE (kg/km) for management area 4-5. CPUE corrected for discarding.

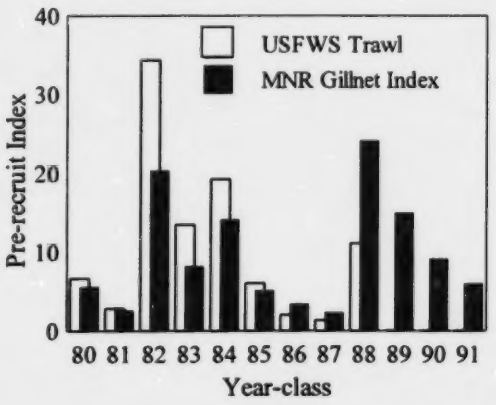



Figure 4-5.11. Indices of year-class strength for chub in management area 4-5 (multi-filament gill nets).

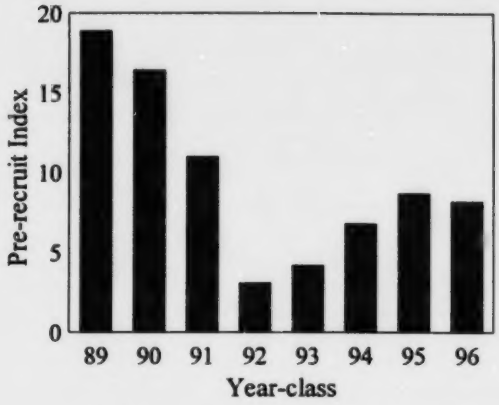



Figure 4-5.12. Indices of year-class strength for chub from index gillnetting in management area 4-5, using monofilament nets.

Table 4-5.8. Estimated number of harvested and discarded chub in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 0 | 0 | 0 | 0 | 524 | 0 | 0 | 80 | 1673 | 0 | |
| 3 | 3553 | 269 | 2048 | 1161 | 1356 | 1048 | 1179 | 1960 | 1435 | 10087 | 0 | |
| 4 | 57228 | 2794 | 6143 | 2323 | 2034 | 2922 | 4935 | 14524 | 8136 | 29067 | 3185 | N |
| 5 | 148592 | 22974 | 9379 | 5503 | 3776 | 13383 | 14612 | 28553 | 26206 | 50967 | 12385 | O |
| 6 | 259602 | 61298 | 74638 | 36542 | 17622 | 42140 | 29751 | 51820 | 59406 | 95379 | 7448 | |
| 7 | 114200 | 45424 | 119025 | 51074 | 32216 | 59897 | 49584 | 59368 | 55962 | 142239 | 5200 | D |
| 8 | 35610 | 11756 | 50199 | 22205 | 36344 | 52826 | 49235 | 34461 | 45585 | 77041 | 533 | A |
| 9 | 6874 | 6172 | 19948 | 3180 | 19900 | 25168 | 24246 | 12315 | 18702 | 28033 | 177 | T |
| 10 | 1820 | 440 | 0 | 0 | 2415 | 8093 | 4405 | 1957 | 6334 | 9839 | 0 | A |
| 11 | 1163 | 0 | 0 | 0 | 0 | 1041 | 1086 | 0 | 0 | 1667 | 0 | |
| 12 | 698 | 314 | 0 | 0 | 0 | 0 | 403 | 0 | 0 | 0 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1667 | 0 | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mean Age | 5.9 | 6.5 | 6.7 | 6.8 | 7.8 | 7.5 | 7.3 | 6.5 | 6.4 | 6.8 | 6.1 | |

Note: corrected for discards.

Table 4-5.9. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 0.6 | 4.0 | 0.0 | |
| 3 | 2.6 | 1.6 | 10.9 | 7.0 | 11.5 | 5.4 | 4.6 | 12.6 | 10.0 | 24.4 | 0.0 | |
| 4 | 41.3 | 16.5 | 32.6 | 13.9 | 17.2 | 15.1 | 19.2 | 93.5 | 56.7 | 70.2 | 144.8 | N |
| 5 | 107.3 | 136.0 | 49.7 | 33.0 | 32.0 | 69.2 | 56.9 | 183.7 | 182.6 | 123.1 | 563.0 | O |
| 6 | 187.4 | 362.9 | 395.8 | 218.3 | 149.3 | 218.0 | 115.9 | 333.4 | 413.8 | 230.4 | 338.6 | |
| 7 | 82.4 | 268.9 | 631.1 | 306.6 | 273.0 | 309.9 | 193.1 | 382.0 | 389.8 | 343.5 | 236.4 | D |
| 8 | 25.7 | 69.6 | 206.2 | 133.3 | 308.0 | 273.3 | 191.7 | 221.7 | 317.6 | 186.1 | 24.2 | A |
| 9 | 5.0 | 36.5 | 105.8 | 19.1 | 168.6 | 130.2 | 94.4 | 79.2 | 130.3 | 67.7 | 8.1 | T |
| 10 | 1.3 | 2.6 | 0.0 | 0.0 | 20.5 | 41.9 | 17.2 | 12.6 | 44.1 | 23.8 | 0.0 | A |
| 11 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 4.2 | 0.0 | 0.0 | 4.0 | 0.0 | |
| 12 | 0.5 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

Note: corrected for discards.

## YELLOW PERCH

- Quota issued was 144,794 kg.
- Harvest decreased 8% to 111,428 kg, 77% of the quota (Figure 4-5.13). The majority of the harvest (97%) came from the gill net fishery (Figure 4-5.14).
- Gill net effort increased 6% to 2,288 km (Figure 4-5.15).
- Gill net CPUE decreased 8% to 46 kg/km (Figure 4-5.16).
- The catch was made up of predominately age 3 and 4 year old fish (Tables 4-5.10,4-5.11).
- Abundance remained unchanged in 1999 as the strong 1994 and 1995 year-classes moved through the fishery (Figure 4-5.18).
- Abundance is expected to remain unchanged in 2000 as the weak 1996 and 1997 year-classes are followed by a stronger 1998 year-class (Figure 4-5.18).

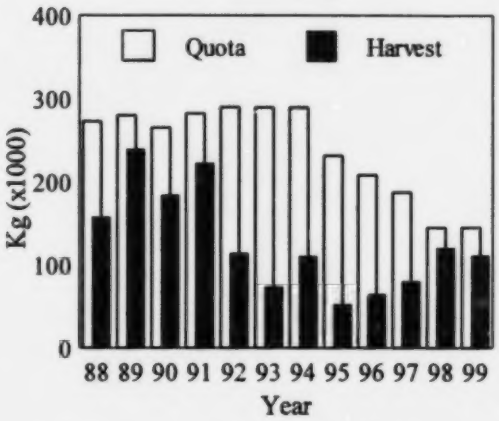



Figure 4-5.13. Yellow perch quota and harvest (kg) for management area 4-5.

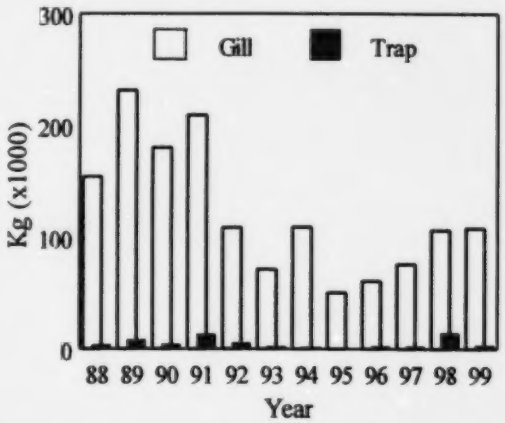



Figure 4-5.14. Yellow perch harvest (kg) for management area 4-5.

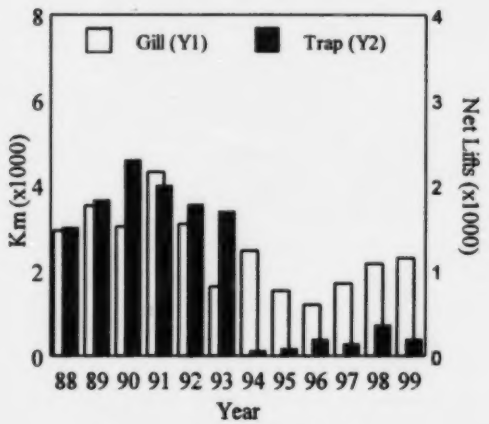



Figure 4-5.15. Yellow perch effort for management area 4-5.

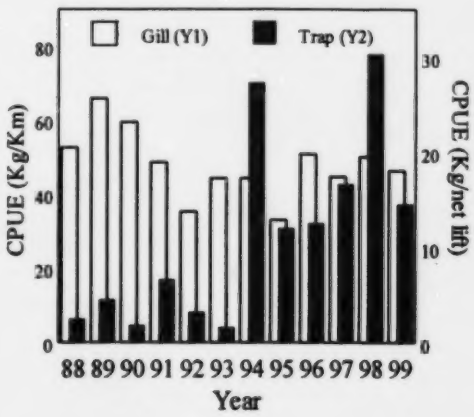



Figure 4-5.16. Yellow perch harvest CPUE for management area 4-5.

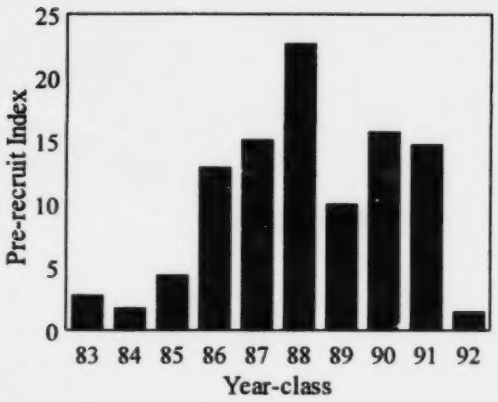



Figure 4-5.17. Indices of year-class strength for yellow perch from index gillnetting in management area 4-5, using multi-filament nets.

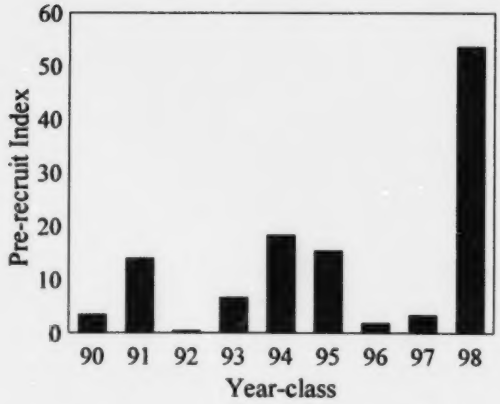



Figure 4-5.18. Indices of year-class strength for yellow perch from index gillnetting in management area 4-5, using monofilament nets.

Table 4-5.10. Estimated number of yellow perch harvested in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 998 | 0 | 0 | 0 | 0 | 3559 |
| 2 | 26778 | 97921 | 73518 | 124309 | 26123 | 104405 | 7119 | 193845 | 60367 | 19532 | 7846 | 127905 |
| 3 | 4853601499624 | 7650911185385 | 504995 | 207278 | 751747 | 82454 | 355847 | 369469 | 466662 | 204186 | | |
| 4 | 443247 | 112601 | 574093 | 237446 | 337362 | 219888 | 65661 | 132047 | 31619 | 176923 | 327684 | 280533 |
| 5 | 265428 | 33860 | 14120 | 99406 | 17058 | 51647 | 15952 | 6978 | 16411 | 16018 | 50187 | 44748 |
| 6 | 57249 | 8531 | 7112 | 3782 | 13066 | 4934 | 5087 | 320 | 921 | 15531 | 982 | 1779 |
| 7 | 3602 | 6007 | 7176 | 4201 | 2412 | 4941 | 558 | 358 | 210 | 2856 | 0 | 0 |
| 8 | 1972 | 1550 | 7288 | 1185 | 1331 | 1290 | 980 | 105 | 0 | 1882 | 0 | 0 |
| 9 | 0 | 1362 | 2581 | 1089 | 1567 | 708 | 186 | 70 | 210 | 1090 | 0 | 632 |
| 10 | 0 | 0 | 336 | 191 | 196 | 354 | 62 | 178 | 0 | 1090 | 0 | 2920 |
| 11 | 134 | 0 | 282 | 0 | 196 | 179 | 0 | 0 | 96 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 4.0 | 3.1 | 3.4 | 3.5 | 3.5 | 3.7 | 3.3 | 3.2 | 3.1 | 3.5 | 3.3 | 3.5 |

Table 4-5.11. Estimated number of yellow perch harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 |
| 2 | 81 | 1321 | 42 | 285 | 3012 | 4792 | I | 1275 | 0 | 378 | 490 | 0 |
| 3 | 3352 | 25656 | 6274 | 30316 | 8742 | 5179 | N S U F F I C I E N T D A T A | 651 | 9937 | 9086 | 45494 | 1824 |
| 4 | 8432 | 7790 | 5273 | 20458 | 7000 | 2814 | | 2446 | 1380 | 5538 | 31540 | 19454 |
| 5 | 4783 | 6264 | 813 | 19669 | 1862 | 543 | | 767 | 1656 | 565 | 3487 | 8511 |
| 6 | 4776 | 1922 | 228 | 1057 | 2844 | 620 | | 71 | 276 | 607 | 979 | 0 |
| 7 | 1268 | 3317 | 305 | 990 | 1253 | 1154 | | 33 | 0 | 156 | 0 | 608 |
| 8 | 238 | 1572 | 42 | 352 | 564 | 293 | | 11 | 0 | 37 | 0 | 0 |
| 9 | 0 | 242 | 102 | 1275 | 805 | 156 | | 66 | 553 | 23 | 0 | 0 |
| 10 | 41 | 96 | 42 | 285 | 946 | 357 | | 11 | 0 | 23 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 39 | 101 | | 11 | 0 | 104 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 8 | 0 | | 0 | 0 | 104 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 4.6 | 4.2 | 4.0 | 4.4 | 4.2 | 3.7 | 3.1 | 4.0 | 3.6 | 4.1 | 3.4 | 4.3 |

Table 4-5.12. CPUE-at-age (number/km) for yellow perch harvested in gill nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 |
| 2 | 9.1 | 27.9 | 24.3 | 28.9 | 8.5 | 64.6 | 2.9 | 127.0 | 50.6 | 11.6 | 3.7 | 58.1 |
| 3 | 165.6 | 427.4 | 252.8 | 275.6 | 164.0 | 128.2 | 306.0 | 54.0 | 298.0 | 218.6 | 221.0 | 92.7 |
| 4 | 151.2 | 32.1 | 189.7 | 55.2 | 109.6 | 136.0 | 26.7 | 86.5 | 26.5 | 104.7 | 155.2 | 172.8 |
| 5 | 90.6 | 9.7 | 4.7 | 23.1 | 5.5 | 31.9 | 6.5 | 4.6 | 13.8 | 9.5 | 23.8 | 20.3 |
| 6 | 19.5 | 2.4 | 2.4 | 0.9 | 4.2 | 3.1 | 2.1 | 0.2 | 0.8 | 9.2 | 0.5 | 0.8 |
| 7 | 1.2 | 1.7 | 2.4 | 1.0 | 0.8 | 3.1 | 0.2 | 0.2 | 0.2 | 1.7 | 0.0 | 0.0 |
| 8 | 0.7 | 0.4 | 2.4 | 0.3 | 0.4 | 0.8 | 0.4 | 0.1 | 0.0 | 1.1 | 0.0 | 0.0 |
| 9 | 0.0 | 0.4 | 0.9 | 0.3 | 0.5 | 0.4 | 0.1 | 0.1 | 0.2 | 0.6 | 0.0 | 0.3 |
| 10 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.0 | 0.6 | 0.0 | 1.3 |
| 11 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 4-5.13. CPUE-at-age (number/net lift) yellow perch harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | I | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.1 | 0.2 | 0.1 | 0.1 | 1.7 | 2.8 | N | 19.9 | 0.0 | 2.6 | 1.4 | 0.0 |
| 3 | 0.9 | 3.2 | 2.7 | 15.2 | 4.9 | 3.1 | S | 10.2 | 50.7 | 61.8 | 126.4 | 10.8 |
| 4 | 2.2 | 1.0 | 2.3 | 10.3 | 3.9 | 1.7 | U | 38.2 | 7.0 | 37.7 | 87.6 | 115.1 |
| 5 | 1.3 | 0.8 | 0.4 | 9.9 | 1.1 | 0.3 | F | 12.0 | 8.5 | 3.8 | 9.7 | 50.4 |
| 6 | 1.3 | 0.2 | 0.1 | 0.5 | 1.6 | 0.4 | F | 1.1 | 1.4 | 4.1 | 2.7 | 0.0 |
| 7 | 0.3 | 0.4 | 0.1 | 0.5 | 0.7 | 0.7 | I | 0.5 | 0.0 | 1.1 | 0.0 | 3.6 |
| 8 | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | C | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 |
| 9 | 0.0 | 0.0 | 0.1 | 0.6 | 0.5 | 0.1 | I | 1.0 | 2.8 | 0.2 | 0.0 | 0.0 |
| 10 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 0.2 | E | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 |
| 11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | N | 0.2 | 0.0 | 0.7 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | T | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | D | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | T | | | | | |
| | | | | | | | A | | | | | |

## WALLEYE

- Quota issued was 123,697 kg.
- Harvest decreased 7% to 80,931 kg, 65% of the quota (Figure 4-5.19). Trap nets produced 79% of the harvest (Figure 4-5.20).
- Trap net effort reported decreased 21% to 1,348 net lifts (Appendix 1, Table A1-14) while gill net effort increased 26% to 115 km.
- Trap net CPUE increased to 47 kg/net lift (Figure 4-5.21) and gillnet CPUE decreased by 3% to 109 kg/km (Appendix 1, Table A1-14).
- Abundance did not appear to change greatly in 1999 due to the strength of the 1996 year-classes offsetting the weak 1995 year-class (Tables 4-5.16,4-5.17).
- Mean age of the catch and harvest increased somewhat in 1999 (Tables 4-5.14,4-5.15).
- Partnership index netting (Appendix 2, Table A2.3) along with the trap net CPUE (Figure 4-5.22) suggest that the 1995 and 1997 year-classes are weaker than the 1996 year-class.
- Exploitable biomass is not expected to change in 2000 as the fishery will be largely dependent on the strong 1996 year-class as 4 year olds (Figure 4-5.23).

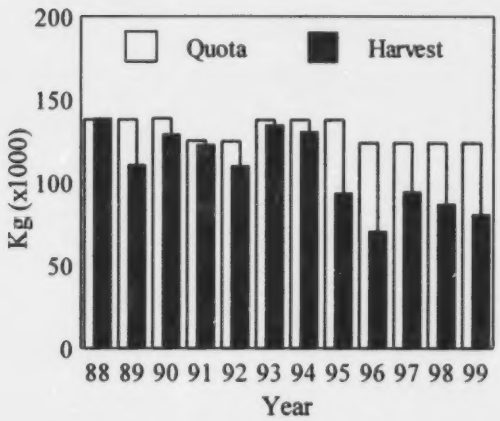



Figure 4-5.19. Walleye quota and harvest (kg) for management area 4-5.

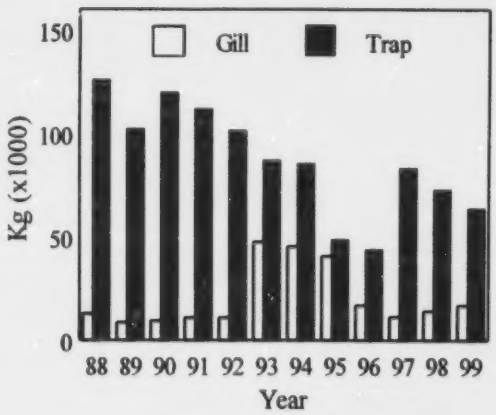



Figure 4-5.20. Walleye harvest (kg) for management area 4-5.

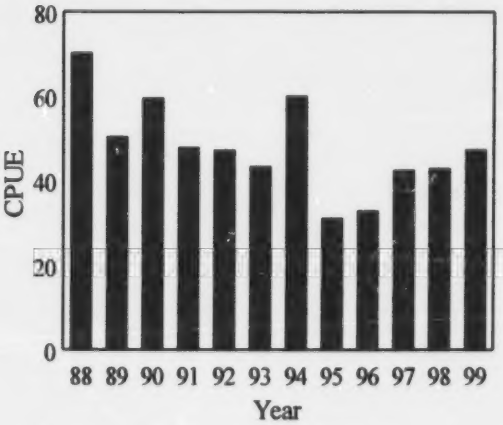



Figure 4-5.21. Walleye trap net CPUE (kg/net lift) for management area 4-5.

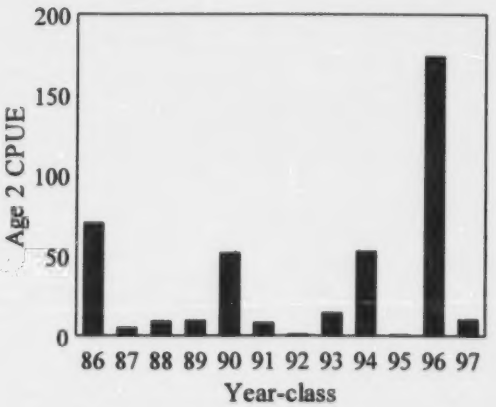



Figure 4-5.22. Age 2 walleye CPUE (#/net lift) from commercial trap nets in management area 4-5.

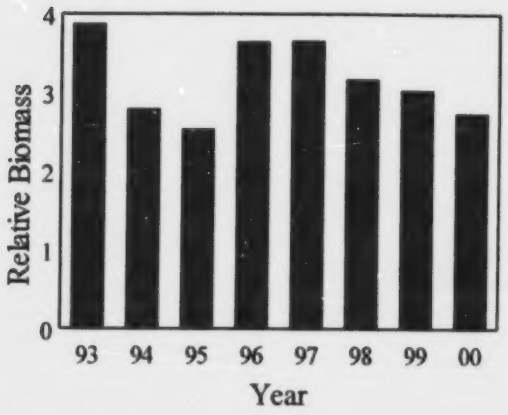



Figure 4-5.23. Exploitable biomass of walleye (ages 2-12) in management area 4-5.

Table 4-5.14. Estimated number of walleye harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1500 | 1785 | 276 | 4828 | 161 | 0 | 256 | 456 | 0 | 0 | 0 | 0 |
| 2 | 29008 | 5082 | 11846 | 13446 | 72596 | 8833 | 1026 | 16311 | 26033 | 1095 | 32868 | 11660 |
| 3 | 53907 | 54242 | 15713 | 17196 | 11638 | 34796 | 23981 | 2717 | 25181 | 67561 | 6742 | 34989 |
| 4 | 42338 | 20321 | 46477 | 7456 | 6324 | 3636 | 16724 | 5881 | 2356 | 8464 | 46774 | 5480 |
| 5 | 6727 | 15578 | 12818 | 20636 | 1992 | 2783 | 2458 | 4103 | 1478 | 550 | 5226 | 8982 |
| 6 | 14480 | 2700 | 12141 | 10184 | 8270 | 4001 | 2495 | 1744 | 621 | 1750 | 785 | 2604 |
| 7 | 1556 | 7185 | 2130 | 8442 | 3846 | 5508 | 3407 | 1344 | 553 | 1756 | 2375 | 1129 |
| 8 | 2548 | 2237 | 8757 | 1930 | 4041 | 4498 | 7601 | 1851 | 422 | 1276 | 1975 | 925 |
| 9 | 693 | 1479 | 2484 | 5876 | 2840 | 3254 | 5045 | 2004 | 360 | 1410 | 952 | 1840 |
| 10 | 668 | 362 | 1308 | 650 | 2297 | 2270 | 3867 | 2260 | 1325 | 1879 | 1186 | 183 |
| 11 | 160 | 623 | 581 | 237 | 1424 | 1752 | 1713 | 1879 | 621 | 2508 | 0 | 366 |
| 12 | 0 | 519 | 305 | 234 | 1139 | 554 | 1068 | 643 | 426 | 487 | 0 | 1098 |
| 13 | 0 | 0 | 0 | 76 | 200 | 168 | 0 | 431 | 117 | 764 | 0 | 972 |
| >13 | 0 | 0 | 0 | 0 | 0 | 95 | 0 | 200 | 117 | 243 | 0 | 0 |
| Mean Age | 3.6 | 4.1 | 4.5 | 4.9 | 3.2 | 4.4 | 5.0 | 4.7 | 3.3 | 4.0 | 3.6 | 4.0 |

Table 4-5.15. Estimated number of harvested and released walleye from trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2566 | 3904 | 855 | 12065 | 5630 | 656 | 985 | 1910 | 34 | 920 | 1477 | 356 |
| 2 | 126290 | 10848 | 18596 | 22941 | 111356 | 16596 | 1874 | 23018 | 70755 | 1545 | 294072 | 13974 |
| 3 | 74903 | 59904 | 15784 | 17644 | 11967 | 35195 | 24761 | 2787 | 26770 | 68223 | 23413 | 35490 |
| 4 | 42338 | 20699 | 46588 | 7490 | 6418 | 3670 | 16743 | 5881 | 2429 | 8464 | 46774 | 5480 |
| 5 | 6727 | 15699 | 12818 | 20636 | 1992 | 2783 | 2458 | 4103 | 1478 | 550 | 5226 | 8982 |
| 6 | 16884 | 2700 | 12141 | 10184 | 8270 | 4001 | 2495 | 1744 | 621 | 1750 | 785 | 2604 |
| 7 | 1556 | 7185 | 2130 | 8442 | 3846 | 5508 | 3407 | 1344 | 553 | 1756 | 2375 | 1129 |
| 8 | 2548 | 2237 | 8757 | 1930 | 4041 | 4498 | 7601 | 1851 | 422 | 1276 | 1975 | 925 |
| 9 | 693 | 1479 | 2484 | 5876 | 2840 | 3254 | 5045 | 2004 | 360 | 1410 | 952 | 1840 |
| 10 | 668 | 362 | 1308 | 650 | 2391 | 2270 | 3867 | 2260 | 1325 | 1879 | 1186 | 183 |
| 11 | 160 | 623 | 581 | 237 | 1424 | 1752 | 1713 | 1879 | 621 | 2508 | 0 | 366 |
| 12 | 0 | 519 | 305 | 234 | 1139 | 554 | 1068 | 643 | 426 | 487 | 0 | 1098 |
| 13 | 0 | 0 | 0 | 76 | 200 | 168 | 0 | 431 | 117 | 764 | 0 | 972 |
| >13 | 0 | 0 | 0 | 0 | 0 | 95 | 0 | 200 | 117 | 243 | 0 | 0 |
| Mean Age | 3.5 | 3.7 | 4.0 | 4.1 | 2.9 | 3.7 | 4.2 | 4.1 | 3.0 | 3.7 | 3.1 | 3.4 |

Table 4-5.16. CPUE-at-age for walleye harvested in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.8 | 0.9 | 0.1 | 2.1 | 0.1 | 0.0 | 0.2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 16.2 | 2.5 | 5.9 | 5.7 | 33.6 | 4.4 | 0.7 | 10.4 | 19.4 | 0.6 | 19.5 | 8.7 |
| 3 | 30.1 | 26.7 | 7.8 | 7.3 | 5.4 | 17.3 | 16.8 | 1.7 | 18.8 | 35.2 | 4.0 | 26.0 |
| 4 | 23.6 | 10.0 | 23.0 | 3.2 | 2.9 | 1.8 | 11.7 | 3.7 | 1.8 | 4.4 | 27.7 | 4.1 |
| 5 | 3.8 | 7.7 | 6.4 | 8.8 | 0.9 | 1.4 | 1.7 | 2.6 | 1.1 | 0.3 | 3.1 | 6.7 |
| 6 | 8.1 | 1.3 | 6.0 | 4.3 | 3.8 | 2.0 | 1.8 | 1.1 | 0.5 | 0.9 | 0.5 | 1.9 |
| 7 | 0.9 | 3.5 | 1.1 | 3.6 | 1.8 | 2.7 | 2.4 | 0.9 | 0.4 | 0.9 | 1.4 | 0.8 |
| 8 | 1.4 | 1.1 | 4.3 | 0.8 | 1.9 | 2.2 | 5.3 | 1.2 | 0.3 | 0.7 | 1.2 | 0.7 |
| 9 | 0.4 | 0.7 | 1.2 | 2.5 | 1.3 | 1.6 | 3.5 | 1.3 | 0.3 | 0.7 | 0.6 | 1.4 |
| 10 | 0.4 | 0.2 | 0.7 | 0.3 | 1.1 | 1.1 | 2.7 | 1.4 | 1.0 | 1.0 | 0.7 | 0.1 |
| 11 | 0.1 | 0.3 | 0.3 | 0.1 | 0.7 | 0.9 | 1.2 | 1.2 | 0.5 | 1.3 | 0.0 | 0.3 |
| 12 | 0.0 | 0.3 | 0.2 | 0.1 | 0.5 | 0.3 | 0.8 | 0.4 | 0.3 | 0.3 | 0.0 | 0.8 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.3 | 0.1 | 0.4 | 0.0 | 0.7 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |

Table 4-5.17. CPUE-at-age (number/net lift) for harvested and released walleye in trap nets in management area 4-5.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.4 | 1.9 | 0.4 | 5.1 | 2.6 | 0.3 | 0.7 | 1.2 | 0.0 | 0.5 | 0.9 | 0.3 |
| 2 | 70.4 | 5.3 | 9.2 | 9.8 | 51.6 | 8.2 | 1.3 | 14.6 | 52.8 | 0.8 | 174.0 | 10.4 |
| 3 | 41.8 | 29.5 | 7.8 | 7.5 | 5.6 | 17.5 | 17.3 | 1.8 | 20.0 | 35.6 | 13.9 | 26.3 |
| 4 | 23.6 | 10.2 | 23.1 | 3.2 | 3.0 | 1.8 | 11.7 | 3.7 | 1.8 | 4.4 | 27.7 | 4.1 |
| 5 | 3.7 | 7.7 | 6.4 | 8.8 | 0.9 | 1.4 | 1.7 | 2.6 | 1.1 | 0.3 | 3.1 | 6.7 |
| 6 | 9.4 | 1.3 | 6.0 | 4.3 | 3.8 | 2.0 | 1.8 | 1.1 | 0.5 | 0.9 | 0.5 | 1.9 |
| 7 | 0.9 | 3.5 | 1.1 | 3.6 | 1.8 | 2.7 | 2.4 | 0.9 | 0.4 | 0.9 | 1.4 | 0.8 |
| 8 | 1.4 | 1.1 | 4.3 | 0.8 | 1.9 | 2.2 | 5.3 | 1.2 | 0.3 | 0.7 | 1.2 | 0.7 |
| 9 | 0.4 | 0.7 | 1.2 | 2.5 | 1.3 | 1.6 | 3.5 | 1.3 | 0.3 | 0.7 | 0.6 | 1.4 |
| 10 | 0.4 | 0.2 | 0.7 | 0.3 | 1.1 | 1.1 | 2.7 | 1.4 | 1.0 | 1.0 | 0.7 | 0.1 |
| 11 | 0.1 | 0.3 | 0.3 | 0.1 | 0.7 | 0.9 | 1.2 | 1.2 | 0.5 | 1.3 | 0.0 | 0.3 |
| 12 | 0.0 | 0.3 | 0.2 | 0.1 | 0.5 | 0.3 | 0.8 | 0.4 | 0.3 | 0.3 | 0.0 | 0.8 |
| 13 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.3 | 0.1 | 0.4 | 0.0 | 0.7 |
| >13 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |

## LAKE TROUT/BACKCROSS

- Quota issued was 36,674 kg (Figure 4-5.24). An additional temporary allowance of 3,732 kg was also available for a total allowable harvest of 40,406 kg.
- Harvest increased to 47,875 kg, 131% of the quota and 118% of the total allowable harvest (Figure 4-5.24). Most of the harvest (90%) came from gill nets (Figure 4-5.25).

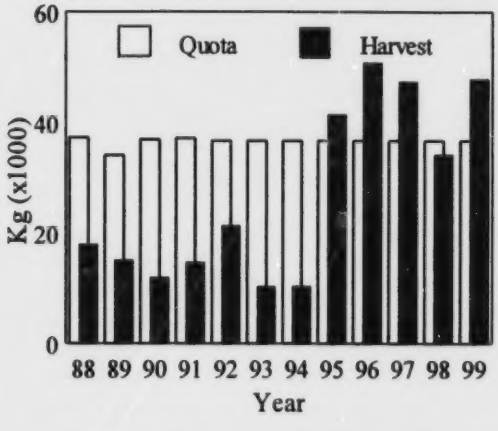



Figure 4-5.24. Lake trout/backcross quota and harvest (kg) for management area 4-5.

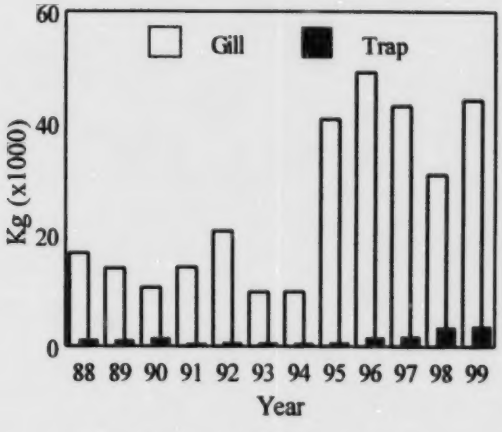



Figure 4-5.25. Lake trout/backcross harvest (kg) for management area 4-5.

## MANAGEMENT AREA 4-7

### GENERAL

- Total quota was 132,667 kg including a lake trout allowance of 185 kg (Table 4-7.1).
- No commercial harvest was reported in this area in 1999.

Table 4-7.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 4-7, in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 53,227 | 0 | 0.0 | 0 | 0 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 929 | 0 | 0.0 | 0 | 0 |
| Lake Whitefish | 76,979 | 0 | 0.0 | 0 | 0 |
| Northern Pike | 225 | 0 | 0.0 | 0 | 0 |
| Walleye | 425 | 0 | 0.0 | 0 | 0 |
| Yellow Perch | 882 | 0 | 0.0 | 0 | 0 |
| Total | 132,667 | 0 | | 0 | 0 |

## LAKE WHITEFISH

- Quota was 76,979 kg (Figure 4-7.1).
- No commercial harvest was reported in 1999.

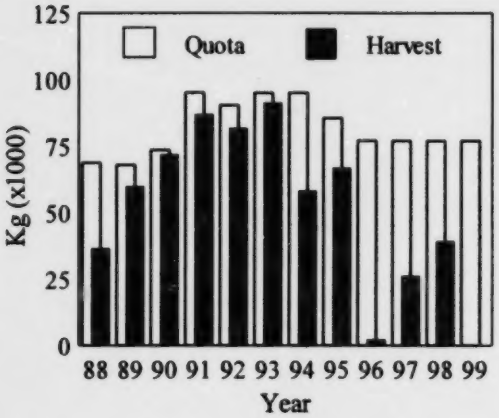



Figure 4-7.1. Lake whitefish quota and harvest (kg) for management area 4-7.

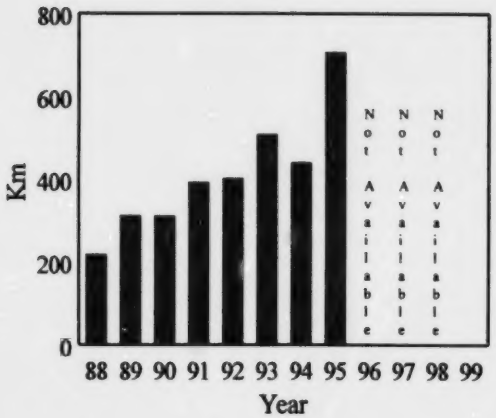



Figure 4-7.2. Lake whitefish annual gill net effort (km) for management area 4-7.

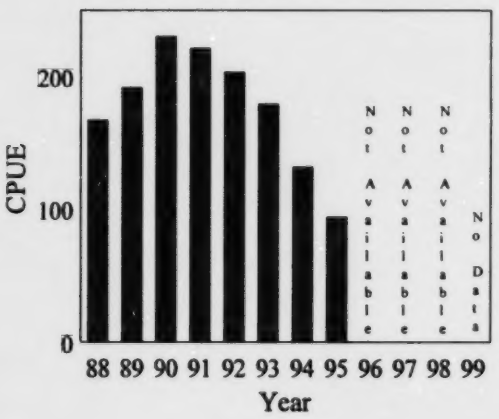



Figure 4-7.3. Lake whitefish gill net CPUE (kg/km) for management area 4-7.

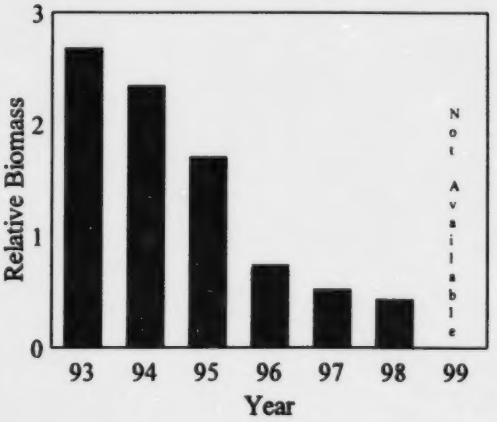



Figure 4-7.4. Exploitable biomass of whitefish (ages 4-10) in management area 4-7 to 1998.

Table 4-7.2. Estimated number of lake whitefish harvested in gill nets in management area 4-7.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N | |
| 3 | 5535 | 2564 | 0 | 1726 | 1668 | 2103 | 310 | 0 | 0 | 0 | O | |
| 4 | 6989 | 27519 | 20213 | 28745 | 12099 | 16974 | 4439 | 3661 | 36 | 89 | T | |
| 5 | 7461 | 7161 | 20213 | 23246 | 31855 | 25587 | 15820 | 23545 | 432 | 613 | | |
| 6 | 1818 | 1767 | 3032 | 8251 | 7451 | 14635 | 9770 | 13659 | 1054 | 6882 | A | |
| 7 | 718 | 1727 | 7075 | 2585 | 2155 | 4450 | 6379 | 5939 | 289 | 7720 | V | |
| 8 | 498 | 245 | 0 | 134 | 502 | 1491 | 1833 | 2789 | 18 | 2732 | A | |
| 9 | 139 | 245 | 0 | 1315 | 210 | 757 | 634 | 631 | 1 | 492 | I | |
| 10 | 61 | 122 | 0 | 438 | 172 | 118 | 126 | 315 | 0 | 166 | L | |
| 11 | 0 | 122 | 0 | 0 | 79 | 236 | 30 | 0 | 0 | 0 | A | |
| 12 | 0 | 122 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | B | |
| 13 | 0 | 0 | 0 | 0 | 79 | 0 | 0 | 0 | 0 | 0 | L | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E | |
| Mean Age | 4.5 | 4.5 | 4.9 | 4.6 | 5.0 | 5.2 | 5.7 | 5.7 | 5.8 | 6.7 | | |

Table 4-7.3. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 4-7.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | O | O | |
| 3 | 7.6 | 11.7 | 0.0 | 4.4 | 4.1 | 4.1 | 0.7 | 0.0 | 0.0 | T | T | |
| 4 | 9.6 | 125.7 | 64.8 | 73.2 | 30.0 | 33.4 | 10.1 | 5.2 | 2.9 | | | N |
| 5 | 10.3 | 32.7 | 64.8 | 59.2 | 79.1 | 50.3 | 35.9 | 33.3 | 34.6 | A | A | O |
| 6 | 2.5 | 8.1 | 9.7 | 21.0 | 18.5 | 28.8 | 22.2 | 19.3 | 84.4 | V | V | |
| 7 | 1.0 | 7.9 | 22.7 | 6.6 | 5.4 | 8.7 | 14.5 | 8.4 | 23.1 | A | A | D |
| 8 | 0.7 | 1.1 | 0.0 | 0.3 | 1.3 | 2.9 | 4.2 | 4.0 | 1.4 | I | I | A |
| 9 | 0.2 | 1.1 | 0.0 | 3.4 | 0.5 | 1.5 | 1.4 | 0.9 | 0.1 | L | L | T |
| 10 | 0.1 | 0.6 | 0.0 | 1.1 | 0.4 | 0.2 | 0.3 | 0.5 | 0.0 | A | A | A |
| 11 | 0.0 | 0.6 | 0.0 | 0.0 | 0.2 | 0.5 | 0.1 | 0.0 | 0.0 | B | B | |
| 12 | 0.0 | 0.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | L | L | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | E | E | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |

**CHUB**

- Quota was 53,227 kg (Figure 4-7.5).
- No commercial harvest was reported in 1999.

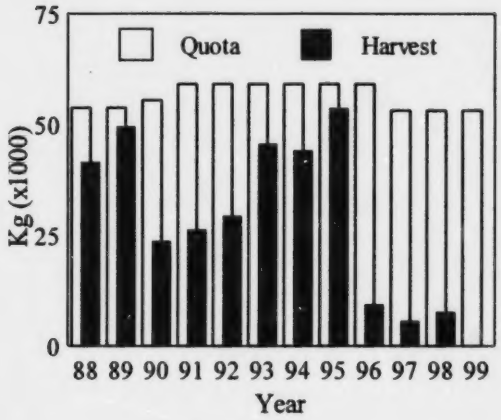



Figure 4-7.5. Chub quota and harvest (kg) for management area 4-7.

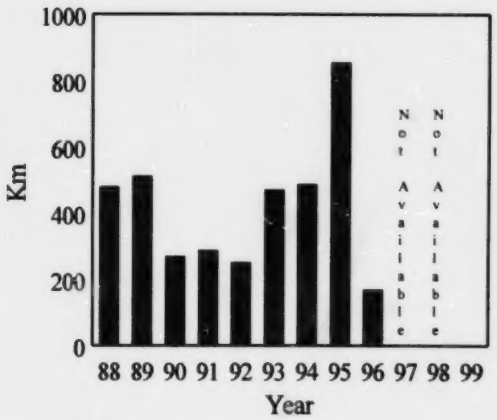



Figure 4-7.6. Chub gill net effort (km) for management area 4-7.

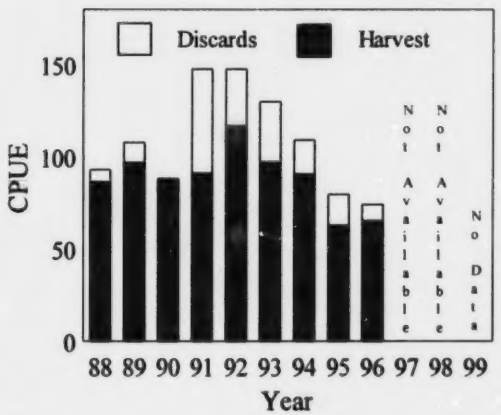



Figure 4-7.7. Chub (harvest+discards) gill net CPUE (kg/km) for management area 4-7. CPUE corrected for discards..

Table 4-7.4. Estimated number of harvested and discarded chub in gill nets in management area 4-7.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| 2 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | N | N | |
| 3 | 0 | 0 | | 0 | 0 | 467 | 627 | 508 | 0 | O | O | |
| 4 | 8568 | 4521 | N | 0 | 0 | 467 | 1509 | 6108 | 504 | T | T | |
| 5 | 58514 | 67272 | O | 8495 | 6352 | 8324 | 9828 | 28890 | 1108 | | | |
| 6 | 98383 | 97011 | | 38044 | 18893 | 31433 | 47998 | 72878 | 7366 | A | A | |
| 7 | 50403 | 67748 | D | 108137 | 72133 | 70403 | 61011 | 90769 | 18094 | V | V | |
| 8 | 23990 | 9575 | A | 40641 | 66233 | 94668 | 74551 | 90400 | 21707 | A | A | |
| 9 | 10784 | 0 | T | 10810 | 16569 | 46979 | 49197 | 47377 | 9816 | I | I | |
| 10 | 1433 | 0 | A | 1299 | 3666 | 20539 | 21946 | 13985 | 3590 | L | L | |
| 11 | 0 | 0 | | 0 | 696 | 3049 | 1804 | 4090 | 0 | A | A | |
| 12 | 0 | 0 | | 0 | 0 | 1054 | 0 | 0 | 0 | B | B | |
| 13 | 0 | 0 | | 0 | 0 | 0 | 0 | 405 | 0 | L | L | |
| >13 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | E | E | |
| Mean Age | 6.2 | -- | | 7.1 | 7.5 | 7.7 | 7.5 | 7.3 | 6.8 | | | |

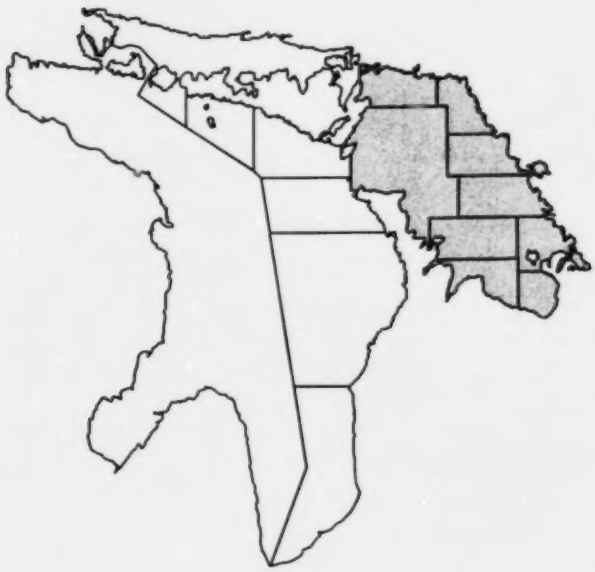
Note: corrected for discards.

Table 4-7.5. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in management area 4-7.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N | N | |
| 2 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | O | O | |
| 3 | 0.0 | 0.0 | | 0.0 | 0.0 | 1.0 | 1.3 | 0.6 | 0.0 | T | T | |
| 4 | 17.8 | 8.8 | N | 0.0 | 0.0 | 1.0 | 3.1 | 7.1 | 3.0 | | | N |
| 5 | 121.7 | 131.3 | O | 29.5 | 26.3 | 17.7 | 20.1 | 33.8 | 6.5 | A | A | O |
| 6 | 204.6 | 189.3 | | 131.9 | 78.1 | 66.8 | 98.3 | 85.2 | 43.4 | V | V | |
| 7 | 104.8 | 132.2 | D | 375.0 | 298.3 | 149.6 | 125.0 | 106.2 | 106.7 | A | A | D |
| 8 | 49.9 | 18.7 | A | 140.9 | 273.9 | 201.1 | 152.7 | 105.7 | 128.0 | I | I | A |
| 9 | 22.4 | 0.0 | T | 37.5 | 68.5 | 99.8 | 100.8 | 55.4 | 57.9 | L | L | T |
| 10 | 3.0 | 0.0 | A | 4.5 | 15.2 | 43.6 | 44.9 | 16.4 | 21.2 | A | A | A |
| 11 | 0.0 | 0.0 | | 0.0 | 2.9 | 6.5 | 3.7 | 4.8 | 0.0 | B | B | |
| 12 | 0.0 | 0.0 | | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | L | L | |
| 13 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | E | E | |
| >13 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |

Note: corrected for discards.

## GEORGIAN BAY



### GENERAL

- Total quota (including lake trout and lake whitefish allowance) issued on commercial fishing licences and other allocations in Georgian Bay was 918,846 kg (Table 5.1).
- Harvest of all fish species under quota control decreased 1% to 663,117 kg. Estimated value of the harvest of species under quota control increased 20% to $1,912,857.
- Total harvest and estimated value of all fish species was 682,262 kg and $1,934,730 respectively (Table 5.1). An additional 38,612 kg of fish of no commercial value was reported caught.

Table 5.1. Quota, harvest, percent quota taken, catch, and estimated value by species for Georgian Bay in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 908 | 13 | 1.4 | 39 | 0 |
| Chub | 402,202 | 156,882 | 39.0 | 159,815 | 558,923 |
| Lake Sturgeon | 1,408 | 365 | 25.9 | 2,370 | 1,409 |
| Lake Trout | 28,175 | 83,638 | 296.9 | 89,067 | 120,795 |
| Lake Whitefish | 436,658 | 417,799 | 95.7 | 417,855 | 1,215,804 |
| Northern Pike | 3,721 | 342 | 9.2 | 354 | 533 |
| Walleye | 10,006 | 3,948 | 39.5 | 3,965 | 14,893 |
| Yellow Perch | 35,768 | 103 | 0.3 | 103 | 500 |
| Alewife | | 0 | | 29 | 0 |
| Brown Trout | | 0 | | 18 | 0 |
| Burbot | | 41 | | 15,197 | 0 |
| Chinook Salmon | | 277 | | 542 | 0 |
| Coho Salmon | | 0 | | 6 | 0 |
| Common Carp | | 27 | | 839 | 0 |
| Lake Herring | | 5,327 | | 6,981 | 4,983 |
| Longnose Gar | | 0 | | 6 | 0 |
| Muskellunge | | 0 | | 5 | 0 |
| Pink Salmon | | 7 | | 8 | 0 |
| Rainbow Trout | | 6 | | 29 | 0 |
| Round Whitefish | | 13,460 | | 13,553 | 16,890 |
| Smallmouth Bass | | 3 | | 26 | 0 |
| Suckers | | 8 | | 10,043 | 0 |
| White Bass | | 16 | | 24 | 0 |
| Total | 918,846 | 682,262 | | 720,874 | 1,934,730 |

## MANAGEMENT AREA 5-1

### GENERAL

- Quota issued on commercial fishing licences was 121,356 kg, including a lake trout allowance of 1,936 kg, and a lake whitefish allowance of 24,000 kg (Table 5-1.1).
- Harvest of all fish species under quota control increased 6% to 77,745 kg (Table 5-1.1). Estimated value of fish under quota control increased 26% to $166,126.
- Harvest and estimated value of all species sold was 93,487 kg and $185,197 respectively (Table 5-1.1). An additional 29 kg of fish of no commercial value was reported caught.

Table 5-1.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-1 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 17,052 | 2,304 | 13.5 | 2,304 | 6,856 |
| Lake Sturgeon | 637 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 4,418 | 6,652 | 150.6 | 6,681 | 12,172 |
| Lake Whitefish | 83,747 | 68,026 | 81.2 | 68,026 | 143,971 |
| Northern Pike | 1,632 | 45 | 2.8 | 45 | 74 |
| Walleye | 1,971 | 616 | 31.3 | 616 | 2,553 |
| Yellow Perch | 11,899 | 102 | 0.9 | 102 | 500 |
| Lake Herring | | 2,301 | | 2,301 | 2,181 |
| Round Whitefish | | 13,441 | | 13,441 | 16,890 |
| Total | 121,356 | 93,487 | | 93,516 | 185,197 |

## LAKE WHITEFISH

- The quota issued was 59,747 kg (Figure 5-1.1). An additional temporary allowance of 24,000 kg was available for a total allowable harvest of 83,747 kg.
- The harvest increased 16% to 68,026 kg, 114% of the quota and 81% of the total allowable harvest (Figure 5-1.1).
- Gill net effort decreased 20% to 556 km (Figure 5-1.2).
- CPUE increased 53% to 122 kg/km (Figure 5-1.3).
- A sample of 50 fish from the catch consisted of 4% 4 year olds, 33% 5 year olds, 19% 6 year olds, 8% 7 year olds, 25% 8 year olds, 6% 9 year olds, and 4% 10 year olds and older.
- Overall abundance is not expected to change in 2000. Strong 1993 and 1994 year-classes will continue to support this fishery.

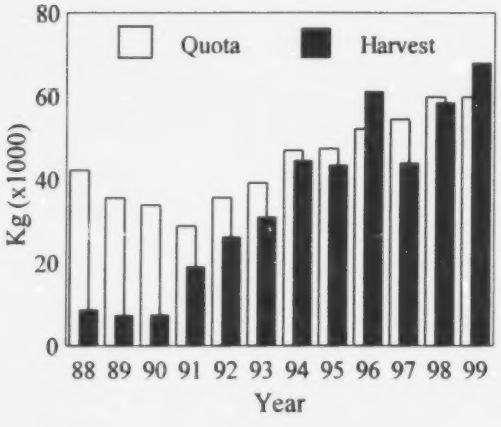



Figure 5-1.1. Lake whitefish quota and harvest (kg) for management area 5-1.

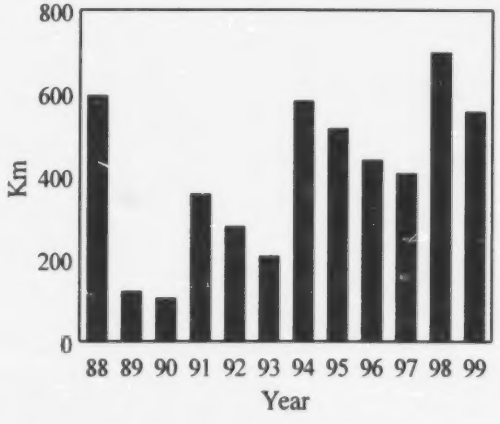



Figure 5-1.2. Lake whitefish gill net effort (km) for management area 5-1.

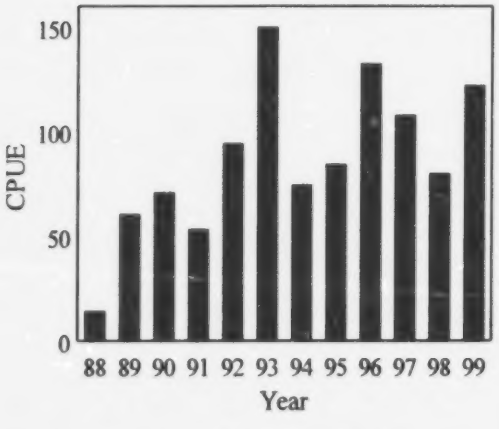



Figure 5-1.3. Lake whitefish gill net CPUE (kg/km) for management area 5-1.

**CHUB**

- The quota was 17,052 kg.
- The harvest decreased 71% to 2,304 kg, 14% of the quota (Figure 5-1.4).
- Effort decreased 27% to 122 km (Figure 5-1.5).
- CPUE (harvest) decreased 61% to 19 kg/km (Figure 5-1.6).
- Available information suggests that abundance may decline in 2000.

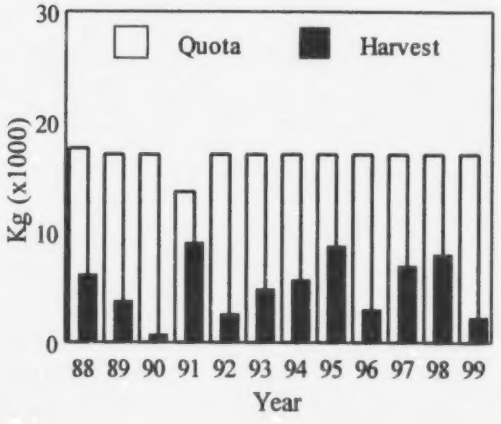



Figure 5-1.4. Chub quota and harvest (kg) for management area 5-1.

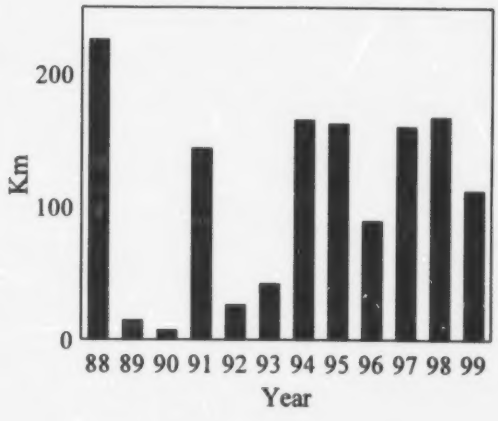



Figure 5-1.5. Chub gill net effort (km) for management area 5-1.

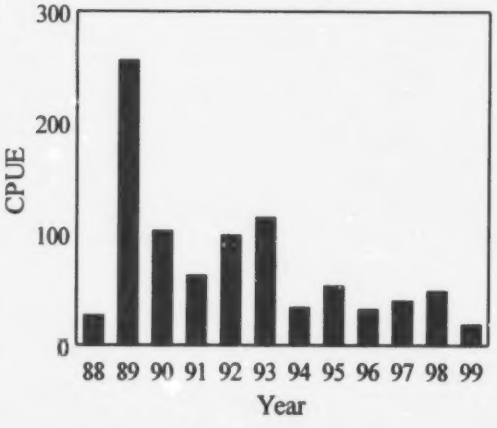



Figure 5-1.6. Chub gill net CPUE (kg/km) for management area 5-1.

## LAKE TROUT/BACKCROSS

- Quota was 2,482 kg. An additional lake trout allowance of 1,936 kg was also available to the fishery for a total allowable harvest of 4,418 kg (Table 5-1.1).
- Harvest increased 15% to 6,652 kg, 268% of the quota (Figure 5-1.10). This harvest was 151% of the total allowable harvest.

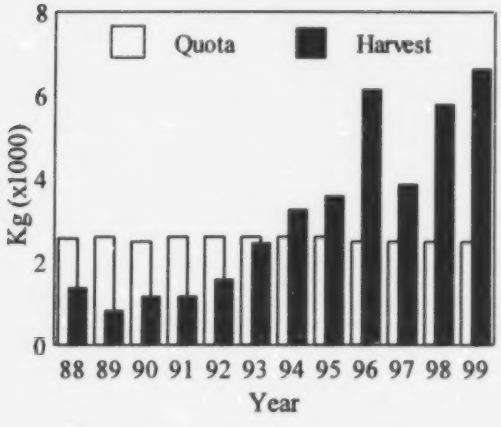
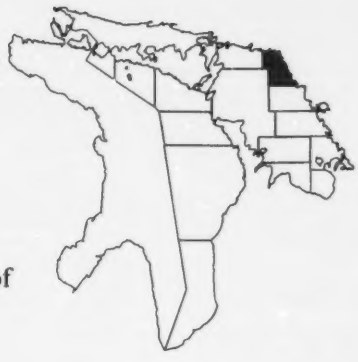



Figure 5-1.7. Lake trout/backcross quota and harvest (kg) for management area 5-1.

## MANAGEMENT AREA 5-2

### GENERAL



- Quota issued on commercial fishing licences was 92,724 kg, including a lake trout allowance of 1,857 kg, and a lake whitefish allowance of 14,000 kg (Table 5-2.1).
- Harvest of all fish species under quota control decreased 5% to 71,337 kg (Table 5-2.1). Estimated value of these fish increased 15% to $214,103.
- Harvest and estimated value of all species sold was 71,665 kg and $214,329 respectively (Table 5-2.1). An additional 13,000 kg of fish of no commercial value was reported caught.

Table 5-2.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-2 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 4 | 0 |
| Chub | 29,163 | 19,950 | 68.4 | 19,950 | 71,250 |
| Lake Sturgeon | 46 | 0 | 0.0 | 16 | 0 |
| Lake Trout | 1,857 | 9,361 | 504.1 | 12,842 | 13,208 |
| Lake Whitefish | 55,804 | 40,048 | 71.8 | 40,060 | 122,723 |
| Northern Pike | 500 | 186 | 37.2 | 196 | 286 |
| Walleye | 4,566 | 1,792 | 39.2 | 1,802 | 6,636 |
| Yellow Perch | 788 | 0 | 0.0 | 0 | 0 |
| Burbot | | 37 | | 3,416 | 0 |
| Chinook Salmon | | 19 | | 156 | 0 |
| Coho Salmon | | 0 | | 6 | 0 |
| Common Carp | | 0 | | 499 | 0 |
| Lake Herring | | 245 | | 1,802 | 226 |
| Longnose Gar | | 0 | | 2 | 0 |
| Muskellunge | | 0 | | 5 | 0 |
| Pink Salmon | | 1 | | 3 | 0 |
| Rainbow Trout | | 6 | | 22 | 0 |
| Round Whitefish | | 1 | | 58 | 0 |
| Smallmouth Bass | | 3 | | 24 | 0 |
| Suckers | | 0 | | 3,778 | 0 |
| White Bass | | 16 | | 24 | 0 |
| Total | 92,724 | 71,665 | | 84,665 | 214,329 |

## LAKE WHITEFISH

- The quota was 41,804 kg (Figure 5-2.1), with an additional temporary allowance of 14,000 kg for a total allowable harvest of 55,804 kg.
- The harvest decreased 13% to 40,048 kg, 96% of the quota (Figure 5-2.1), and 72% of the total allowable harvest.
- Gill net effort decreased 4% to 324 km (Figure 5-2.2).
- CPUE decreased 12% to 122 kg/km (Figure 5-2.3).
- 333 whitefish sampled by commercial fishermen in 1999 consisted of 6% 4 year olds, 18% 5 year olds, 12% 6 year olds, 16% 7 year olds, and 30% 8 year olds, 13% 9 year olds and 5% 10 year olds and older.
- Based on CPUE and the strength of several year-classes in the catch, abundance should not change greatly in 2000.

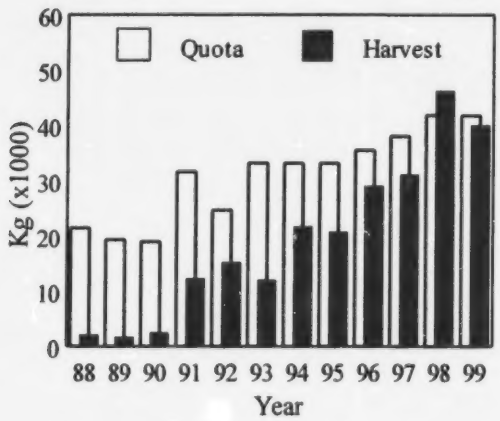



Figure 5-2.1. Lake whitefish quota and harvest (kg) for management area 5-2.

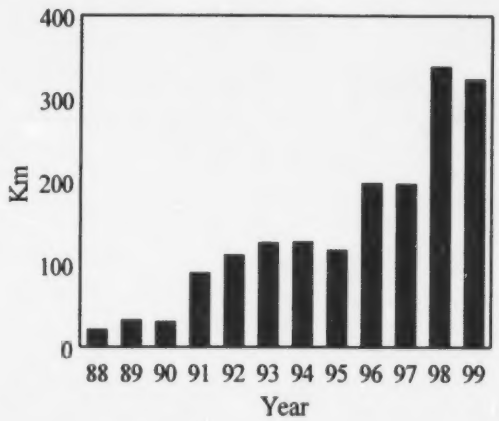



Figure 5-2.2. Lake whitefish gill net effort (km) for management area 5-2.

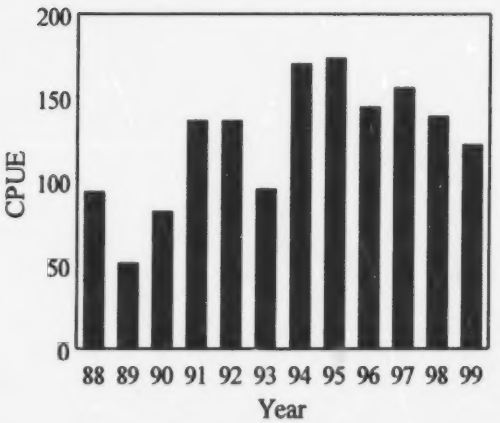



Figure 5-2.3. Lake whitefish gill net CPUE (kg/km) for management area 5-2.

**CHUB**

- The quota issued was 29,163 kg.
- The harvest increased 3% to 19,950 kg, 68% of the quota (Figure 5-2.4).
- Effort increased 15% to 213 km (Figure 5-2.5).
- CPUE (harvest) decreased 11% to 93 kg/km (Figure 5-2.6).
- In 1999, harvest of chub consisted of 4% 5 year olds, 14% 6 year olds, 21% 7 year olds, 30% 8 year olds, 21% 9 year olds, and 10% 10 year olds and older.
- Based upon CPUE and age composition of the commercial catch, abundance is not likely to change in 2000.

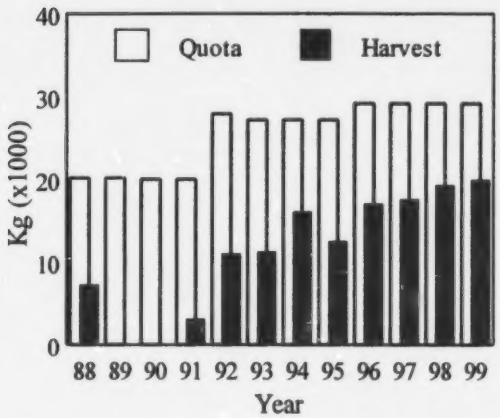



Figure 5-2.4. Chub quota and harvest (kg) for management area 5-2.

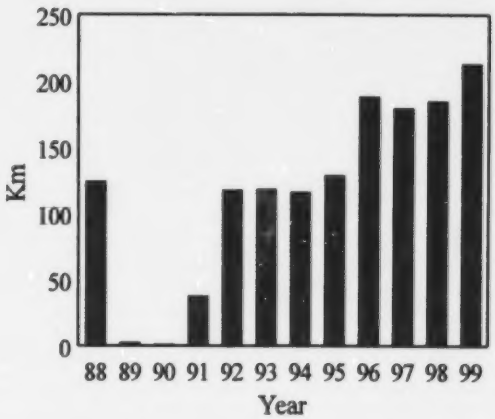



Figure 5-2.5. Chub gill net effort (km) for management area 5-2.

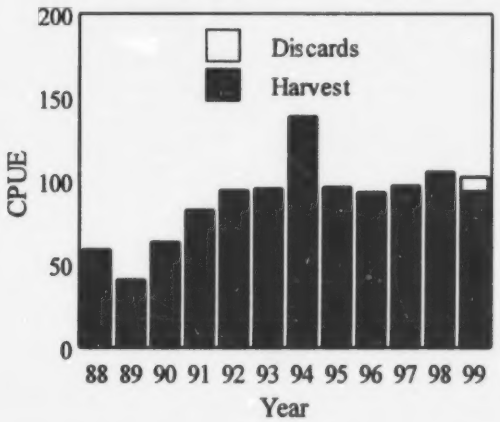



Figure 5-2.6. Chub gill net CPUE (kg/km) for management area 5-2.

## WALLEYE

- The issued quota in 1999 was 4,566 kg.
- The harvest decreased to 1,792 kg, 39% of the quota (Figure 5-2.10).
- Total targeted effort decreased 50% to 42 km (Figure 5-2.11).
- CPUE decreased 12% to 36 kg/km (Figure 5-2.12).
- Based on CPUE, walleye abundance appears to have declined in 1999.

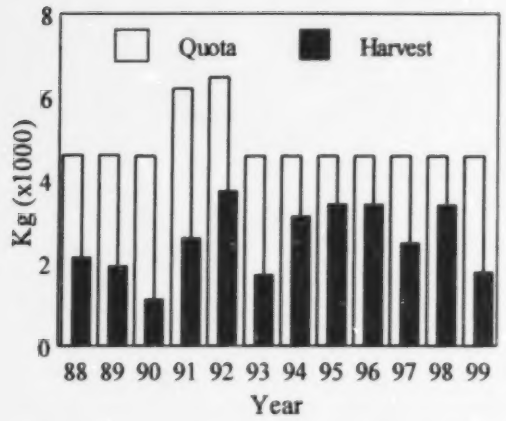



Figure 5-2.7. Walleye quota and harvest (kg) for management area 5-2.

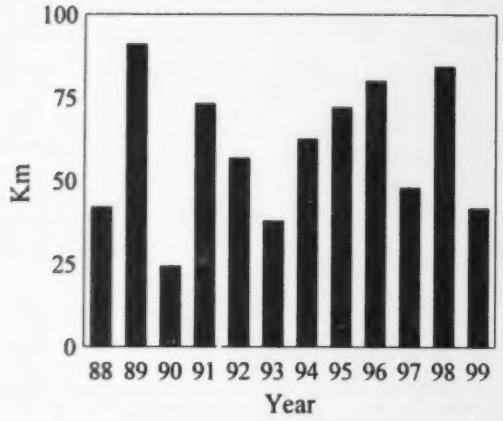



Figure 5-2.8. Walleye gill net effort (km) for management area 5-2.

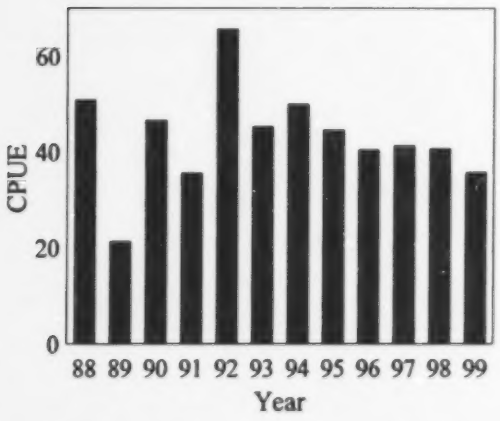
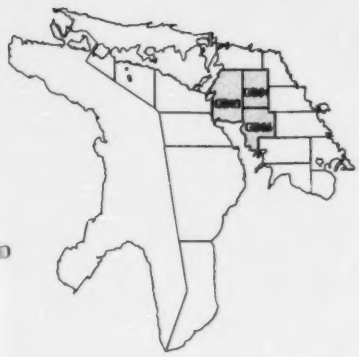



Figure 5-2.9. Walleye gill net CPUE (kg/km) for management area 5-2.

## MANAGEMENT AREA 5-3

### GENERAL



- Total quota was 269,908 kg, including a lake whitefish allowance of 16,000 kg. There was no temporary lake trout allowance.
- Harvest of all fish species increased 83% to 161,610 kg (Table 5-3.1). Estimated value of these fish was $484,455.
- Harvest and estimated value of all species sold was 163,691 kg and $486,332 respectively (Table 5-3.1). An additional 640 kg of fish of no commercial value was reported caught.

Table 5-3.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-3 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 908 | 13 | 1.4 | 13 | 0 |
| Chub | 204,286 | 61,752 | 30.2 | 61,752 | 220,542 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 2,706 | 25,442 | 940.2 | 25,653 | 35,897 |
| Lake Whitefish | 59,182 | 74,302 | 125.5 | 74,302 | 227,690 |
| Northern Pike | 414 | 32 | 7.7 | 32 | 49 |
| Walleye | 0 | 69 | 0.0 | 69 | 257 |
| Yellow Perch | 2,412 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 347 | 0 |
| Chinook Salmon | | 0 | | 17 | 0 |
| Common Carp | | 27 | | 27 | 0 |
| Lake Herring | | 2,048 | | 2,062 | 1,897 |
| Pink Salmon | | 4 | | 4 | 0 |
| Round Whitefish | | 2 | | 31 | 0 |
| Suckers | | 0 | | 22 | 0 |
| Total | 269,908 | 163,691 | | 164,331 | 486,332 |

## LAKE WHITEFISH

- The quota issued was 43,182 kg (Figure 5-3.1), with an additional temporary allowance of 16,000 kg for a total allowable harvest of 59,182 kg..
- The harvest increased by 63% to 74,302 kg, 172% of the quota (Figure 5-3.1), and 126% of the total allowable harvest. All of the non-aboriginal harvest came from area GB03 (Figure 5-3.2).
- Non-aboriginal gill net effort in GB03 increased 117% to 273 km (Figure 5-3.3) while CPUE increased by 3% to 105 kg/km (Figure 5-3.4).
- Abundance is unlikely to change greatly in 2000 as year-class indices in southern Georgian Bay suggest that several good year-classes will contribute to the catch.

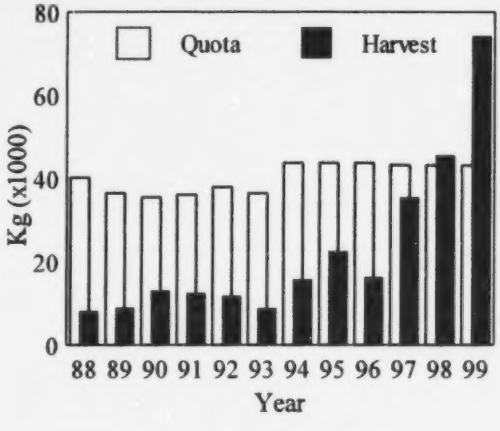



Figure 5-3.1. Lake whitefish quota and harvest (kg) for management area 5-3

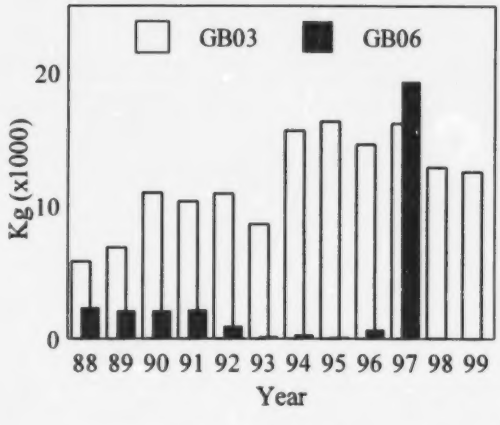



Figure 5-3.2. Lake whitefish harvest (kg) by subarea for management area 5-3.

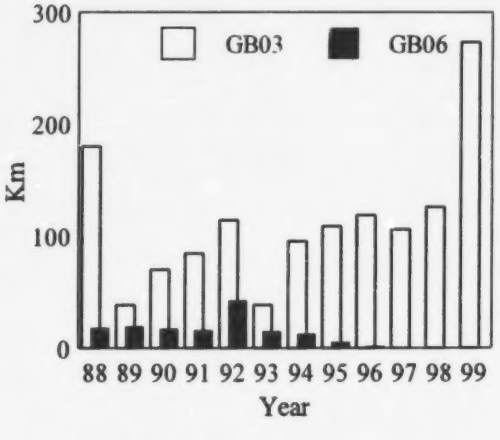



Figure 5-3.3. Lake whitefish gill net effort (km) by subarea for management area 5-3.

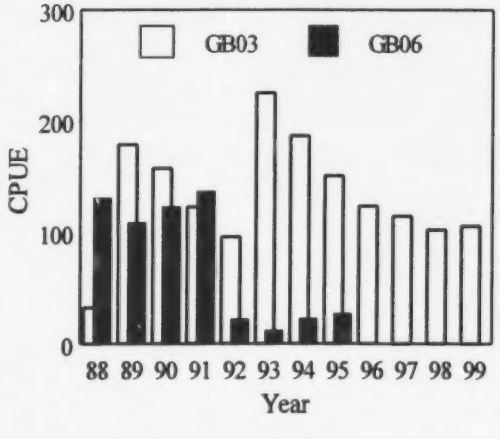



Figure 5-3.4. Lake whitefish annual gill net CPUE (kg/km) by subarea for management area 5-3.

**CHUB**

- The quota issued was 204,286 kg.
- Harvest increased 126% to 61,752 kg, 30% of the quota (Figure 5-3.5).
- Non-aboriginal effort increased 37% to 301 km (Figure 5-3.7; Appendix 1, Table A1.27).
- The CPUE of non-aboriginal harvested chub in GB03 and GB04 decreased 53% and 41% respectively (Figure 5-3.8). Total non-aboriginal CPUE decreased 48% to 53.0 kg/km (Appendix 1, Table A1.27).
- In 1999, age 8 and 9 fish comprised over 50% of the catch in GB04. Age 7 and 10 fish also contributed substantially to the catch.
- Abundance appeared to decrease in 1999, as indicated by a decrease in CPUE.
- Abundance may decrease in 2000 as weaker year-classes make up the majority of the fishery.

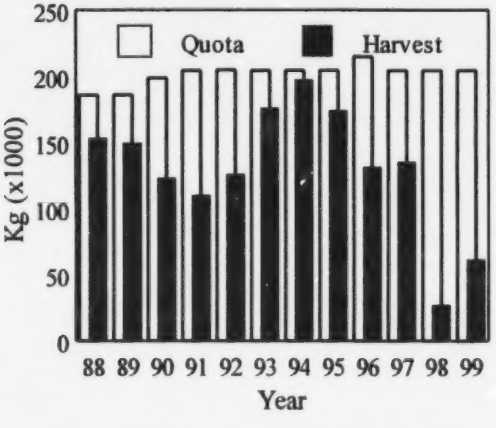



Figure 5-3.5. Chub quota and harvest (kg) for management area 5-3.

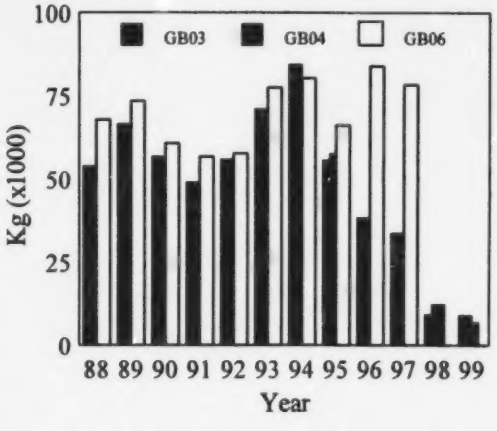



Figure 5-3.6. Chub harvest (kg) by subarea for management area 5-3.

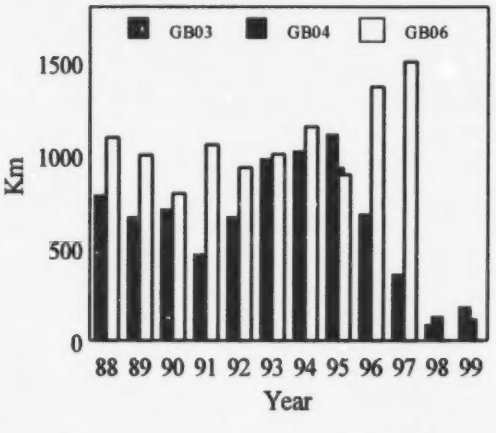



Figure 5-3.7. Chub gill net effort (km) by subarea for management area 5-3.

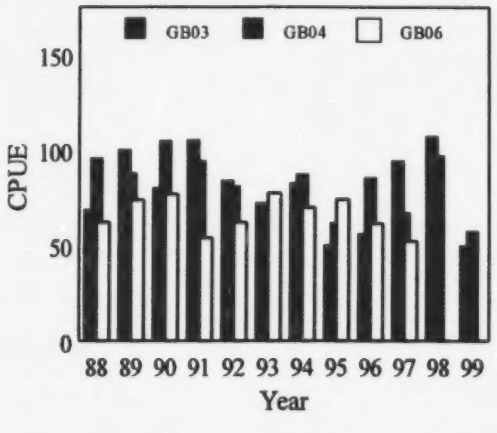



Figure 5-3.8. Chub annual gill net CPUE (kg/km) by subarea for management area 5-3.

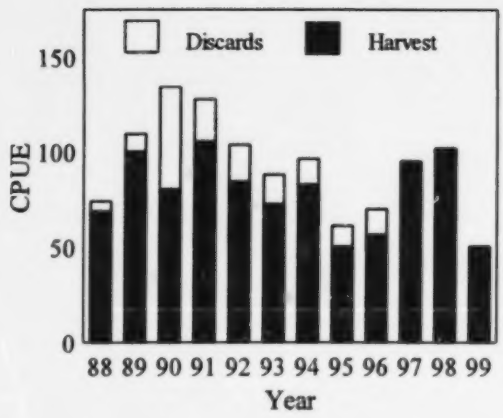



Figure 5-3.9. Chub (harvest + discards) gill net CPUE (kg/km) for GB03 (subarea of management area 5-3). CPUE corrected for observed discards.

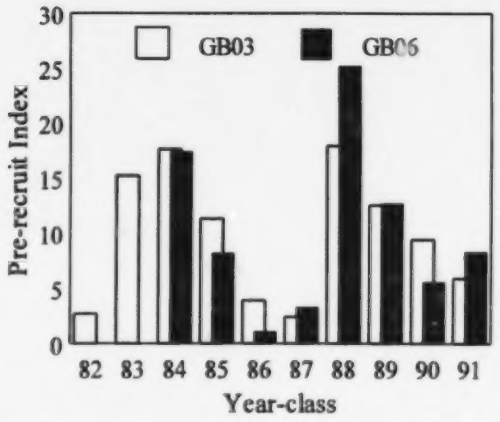



Figure 5-3.10. Indices of year-class strength for chub from index gillnetting in GB03 and GB06 (subareas of management area 5-3), using multi-filament nets.

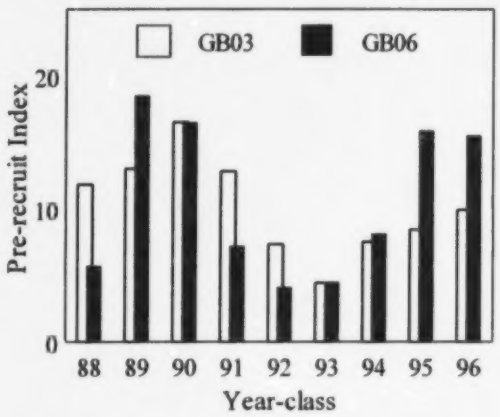



Figure 5-3.11. Indices of year-class strength for chub from index gillnetting in assessment areas GB03 and GB06 (subareas of management area 5-3), using monofilament nets.

Table 5-3.2. Estimated number of harvested and discarded chub in gill nets in assessment area GB03 (subarea of management area 5-3).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 3 | 890 | 0 | 1329 | 41 | 0 | 418 | 862 | 282 | 0 | 0 | | |
| 4 | 23626 | 2751 | 5204 | 3536 | 284 | 2934 | 5675 | 11529 | 3976 | 1288 | N | N |
| 5 | 126273 | 74651 | 49416 | 9580 | 14895 | 7703 | 35304 | 24531 | 19791 | 32650 | O | O |
| 6 | 70060 | 196624 | 199377 | 45004 | 53806 | 25842 | 84845 | 80394 | 63281 | 54249 | | |
| 7 | 61781 | 44621 | 189677 | 119558 | 110030 | 39310 | 130721 | 113462 | 81541 | 67146 | D | D |
| 8 | 16473 | 14005 | 24887 | 56802 | 87544 | 58947 | 107967 | 74731 | 54564 | 24461 | A | A |
| 9 | 2951 | 2657 | 8502 | 12960 | 30395 | 35129 | 87529 | 39315 | 17627 | 4008 | T | T |
| 10 | 219 | 0 | 452 | 2405 | 351 | 10732 | 20184 | 3659 | 4113 | 830 | A | A |
| 11 | 99 | 628 | 0 | 1307 | 0 | 2056 | 4416 | 1960 | 0 | 0 | | |
| 12 | 0 | 0 | 452 | 0 | 0 | 0 | 0 | 0 | 984 | 0 | | |
| 13 | 0 | 0 | 0 | 0 | 0 | 418 | 0 | 0 | 0 | 0 | | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Mean Age | 5.7 | 6.0 | 6.7 | 6.9 | 7.4 | 7.6 | 7.3 | 7.4 | 7.0 | 6.5 | | |

Note: corrected for discards.

Table 5-3.3. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in assessment area GB03 (subarea of management area 5-3).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| 3 | 1.1 | 0.0 | 1.9 | 0.9 | 0.0 | 1.2 | 0.8 | 0.3 | 0.0 | 0.0 | | |
| 4 | 30.2 | 4.1 | 7.4 | 7.6 | 0.4 | 8.2 | 5.6 | 10.4 | 5.8 | 3.6 | N | N |
| 5 | 161.1 | 112.1 | 69.9 | 20.5 | 22.4 | 21.6 | 34.5 | 22.0 | 29.0 | 90.8 | O | O |
| 6 | 89.4 | 295.3 | 281.8 | 96.5 | 80.8 | 72.5 | 82.9 | 72.2 | 92.6 | 150.9 | | |
| 7 | 78.8 | 67.0 | 268.1 | 256.3 | 165.1 | 110.2 | 127.7 | 101.9 | 119.3 | 186.8 | D | D |
| 8 | 21.0 | 21.0 | 35.2 | 121.8 | 131.4 | 165.3 | 105.5 | 67.1 | 79.8 | 68.1 | A | A |
| 9 | 3.8 | 4.0 | 12.0 | 27.8 | 45.6 | 98.5 | 85.5 | 35.3 | 25.8 | 11.2 | T | T |
| 10 | 0.3 | 0.0 | 0.6 | 5.2 | 0.5 | 30.1 | 19.7 | 3.3 | 6.0 | 2.3 | A | A |
| 11 | 0.1 | 1.0 | 0.0 | 2.8 | 0.0 | 5.8 | 4.3 | 1.8 | 0.0 | 0.0 | | |
| 12 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |

Note: corrected for discards.

## LAKE TROUT/BACKCROSS

- The quota was 2,706 kg. There was no additional temporary allowance (Table 5-3.1).
- The harvest increased to 25,442 kg, 940% of the quota (Figure 5-3.13). Harvest by assessment area is given in Figure 5-3.14.
- CPUE information for 1999 is presented in Figure 5-3.14, where GB03 data is from lake whitefish nets and GB04 data is from chub nets.

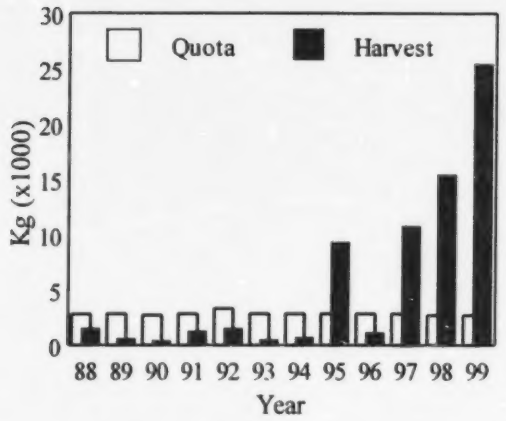



Figure 5-3.12. Lake trout/backcross quota and harvest (kg) for management area 5-3.

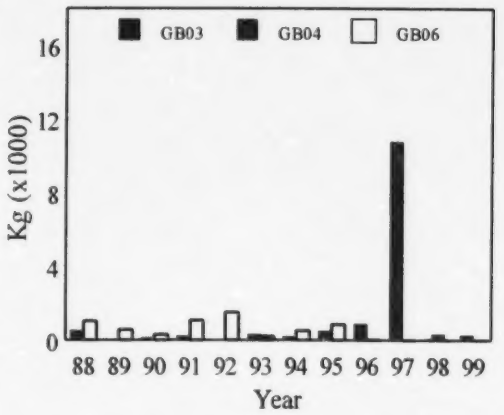



Figure 5-3.13. Lake trout/backcross harvest (kg) by subarea for management area 5-3.

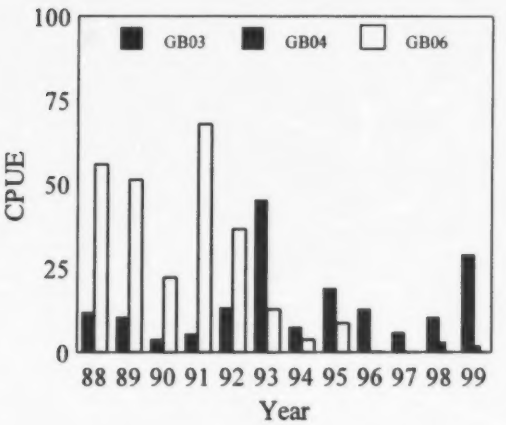
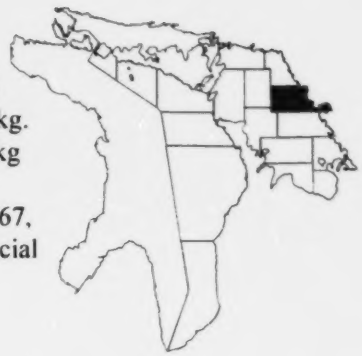



Figure 5-3.14. Lake trout/backcross gill net CPUE (kg/km) for management area 5-3.

## MANAGEMENT AREA 5-4

### GENERAL



- Quota issued on commercial fishing licences was 42,454 kg, including a lake trout allowance of 113 kg, and a lake whitefish allowance of 8,000 kg.
- Harvest of all fish species under quota control increased 25% to 24,799 kg (Table 5-4.1). Estimated value of these fish increased 53% to $75,939.
- Harvest and estimated value of all species sold was 25,045 kg and $76,167, respectively (Table 5-4.1). An additional 1,260 kg of fish of no commercial value was reported caught.

Table 5-4.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-4 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 18,000 | 8,279 | 46.0 | 8,279 | 29,568 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 113 | 2,571 | 2,275.2 | 3,280 | 3,628 |
| Lake Whitefish | 21,328 | 13,941 | 65.4 | 13,941 | 42,722 |
| Northern Pike | 0 | 3 | 0.0 | 3 | 4 |
| Walleye | 159 | 5 | 3.1 | 7 | 17 |
| Yellow Perch | 2,854 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 293 | 0 |
| Lake Herring | | 246 | | 314 | 228 |
| Round Whitefish | | 0 | | 7 | 0 |
| Suckers | | 0 | | 181 | 0 |
| Total | 42,454 | 25,045 | | 26,305 | 76,167 |

## LAKE WHITEFISH

- The quota issued was 13,328 kg (Figure 5-4.1), with an additional temporary allowance of 8,000 kg for a total allowable harvest of 21,328 kg.
- The harvest decreased 20% to 13,941 kg, 105% of the quota (Figure 5-4.1), and 65% of the total allowable harvest.
- Gill net effort decreased 16% to 83 km (Figure 5-4.2).
- CPUE decreased 8% to 168 kg/km (Figure 5-4.3).
- A sample of fish from the commercial catch consisted of 4% 4 year olds, 30% 5 year olds, 7% 6 year olds, 16% 7 year olds, 21% 8 year olds, and 9% 9 year olds, and 14% 10 year olds and older.
- Abundance appeared to decrease slightly in 1999 based upon CPUE.
- Abundance is not expected to change in 2000 due to the presence of several strong year-classes in the fishery.

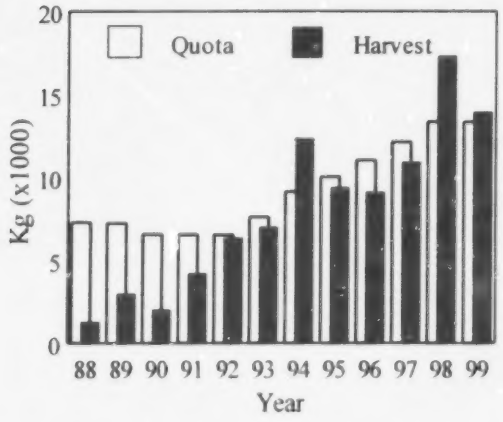



Figure 5-4.1. Lake whitefish quota and harvest (kg) for management area 5-4.

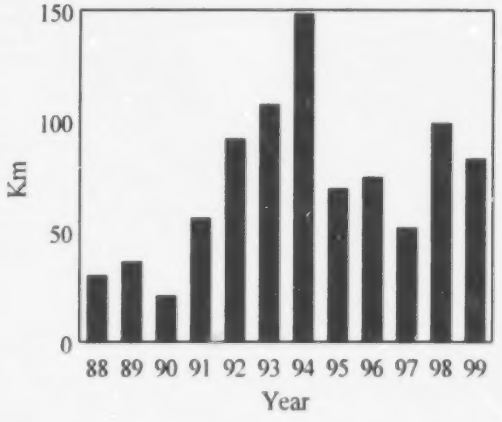



Figure 5-4.2. Lake whitefish effort (km) for management area 5-4.

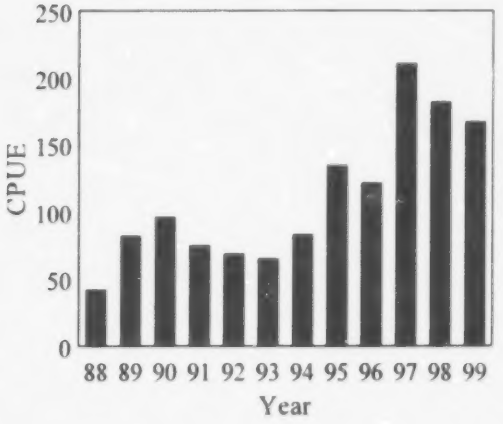



Figure 5-4.3. Lake whitefish gill net CPUE (kg/km) for management area 5-4.

**CHUB**

- Quota was 18,000 kg.
- Harvest increased to 8,279 kg, 46% of the quota (Figure 5-4.4).
- Effort increased to 147 km (Figure 5-4.5).
- CPUE increased 58% to 57 kg/km (Figure 5-4.6).
- Indices of year-class strength from area 5-3 indicate several weaker than average year-classes supporting the fishery (Figures 5-3.10,5-3.11).
- Abundance may decline in 2000 as these weaker year-classes continue to support the fishery.

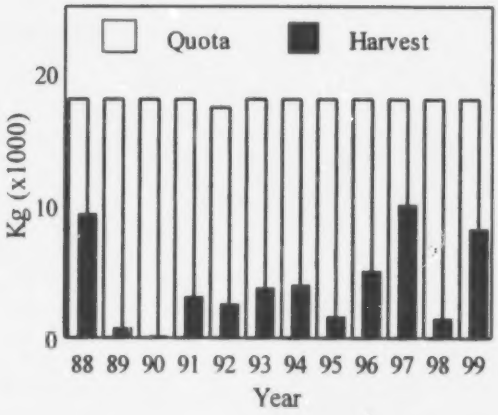



Figure 5-4.4. Chub quota and harvest (kg) for management area 5-4.

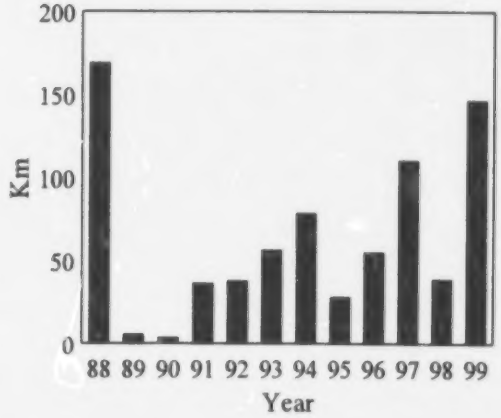



Figure 5-4.5. Chub gill net effort (km) for management area 5-4.

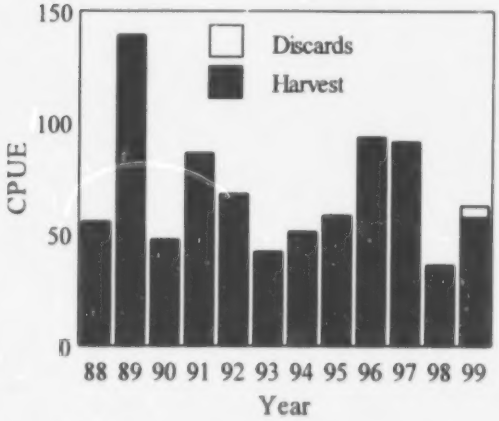
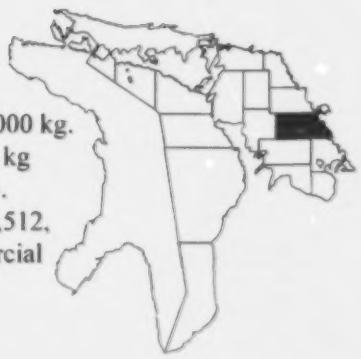



Figure 5-4.6. Chub gill net CPUE (kg/km) for management area 5-4.

## MANAGEMENT AREA 5-5

### GENERAL



- Quota issued on commercial fishing licences was 62,745 kg, including a lake trout allowance of 1,504 kg, and a lake whitefish allowance of 2,000 kg.
- Harvest of all fish species under quota control decreased 25% to 32,989 kg (Table 5-5.1). Estimated value of these fish decreased 17% to $100,403.
- Harvest and estimated value of all species sold was 33,107 kg and $100,512, respectively (Table 5-5.1). An additional 3,638 kg of fish of no commercial value was reported caught.

Table 5-5.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-5 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 30,736 | 9,954 | 32.4 | 9,954 | 35,550 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 1,504 | 3,469 | 230.7 | 4,334 | 4,895 |
| Lake Whitefish | 23,941 | 19,566 | 81.7 | 19,566 | 59,958 |
| Northern Pike | 0 | 0 | 0.0 | 2 | 0 |
| Walleye | 0 | 0 | 0.0 | 5 | 0 |
| Yellow Perch | 6,564 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 2,093 | 0 |
| Chinook Salmon | | 0 | | 3 | 0 |
| Lake Herring | | 118 | | 131 | 109 |
| Rainbow Trout | | 0 | | 1 | 0 |
| Suckers | | 0 | | 656 | 0 |
| Total | 62,745 | 33,107 | | 36,745 | 100,512 |

## LAKE WHITEFISH

- The quota was 21,941 kg (Figure 5-5.1), with an additional temporary allowance of 2,000 kg for a total allowable harvest of 23,941 kg.
- The harvest decreased 19% to 19,566 kg, 89% of the quota (Figure 5-5.1), and 82% of the total allowable harvest.
- Gill net effort decreased 27% to 121 km (Figure 5-5.2).
- CPUE increased 9% to 162 kg/km (Figure 5-5.3).
- Abundance appeared unchanged in 1999 based upon minimal change in CPUE.
- A sample of whitefish from the commercial harvest consisted of 2% 4 year olds, 39% 5 year olds, 27% 6 year olds, 13% 7 year olds, 8% 8 year olds, and 8% 9 year olds, and 3% 10 year olds and older.
- Based on recent years' CPUE and southern Georgian Bay index values (Figures 5-8.4,5-8.5), abundance is unlikely to change greatly in 2000.

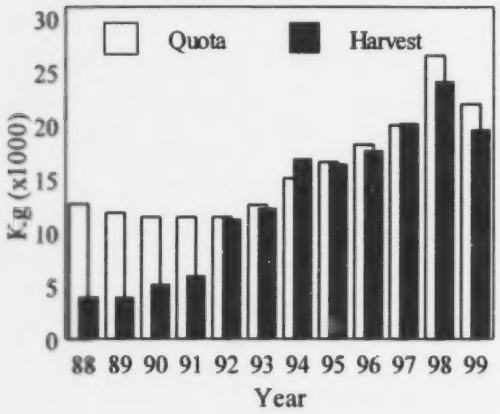



Figure 5-5.1. Lake whitefish quota and harvest (kg) for management area 5-5.

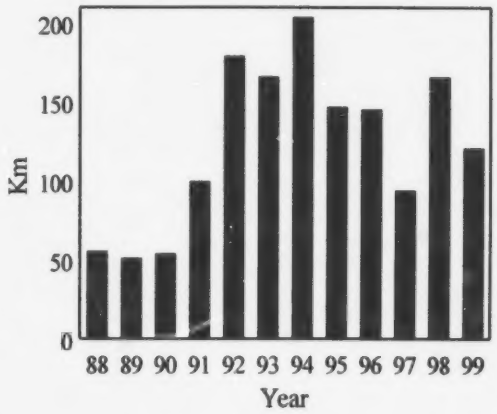



Figure 5-5.2. Lake whitefish gill net effort (km) for management area 5-5.

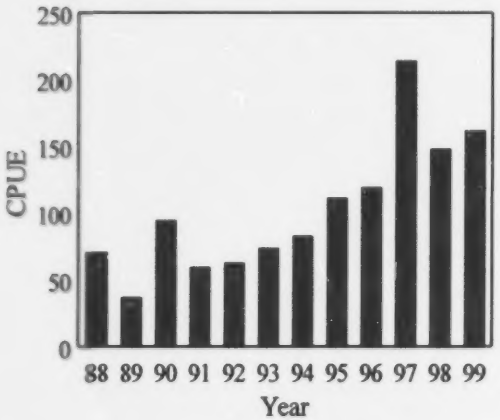



Figure 5-5.3. Lake whitefish gill net CPUE (kg/km) for management area 5-5.

## CHUB

- Quota issued was 30,736 kg.
- Harvest decreased 46% to 9,954 kg, 32% of the quota (Figure 5-5.4).
- Effort decreased to 162 km (Figure 5-5.5).
- CPUE increased 48% to 62 kg/km (Figure 5-5.6).
- A sample of chub from the commercial harvest consisted of 2% 5 year olds, 10% 6 year olds, 42% 7 year olds, 31% 8 year olds, 13% 9 year olds, and 2% 10 year olds.
- Year-class indices for chub elsewhere in Georgian Bay suggest that due to several weaker than average cohorts making up the harvest, abundance will likely decrease in 2000.

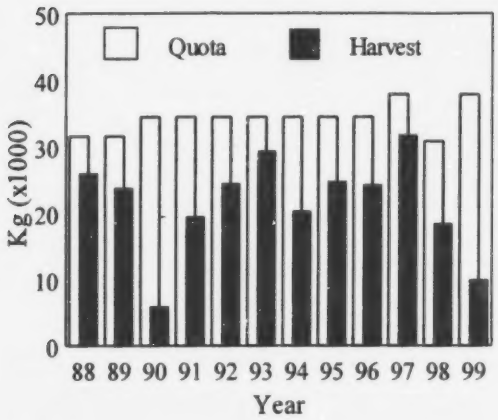



Figure 5-5.4 Chub quota and harvest (kg) for management area 5-5.

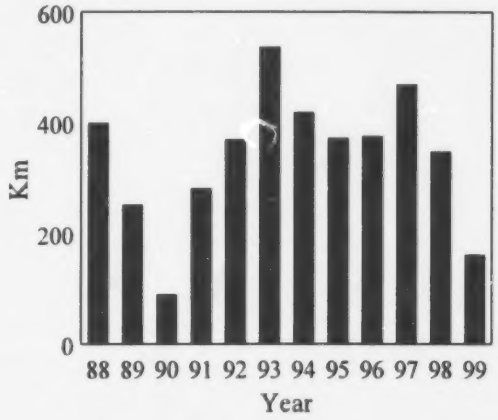



Figure 5-5.5. Chub gill net effort (km) for management area 5-5.

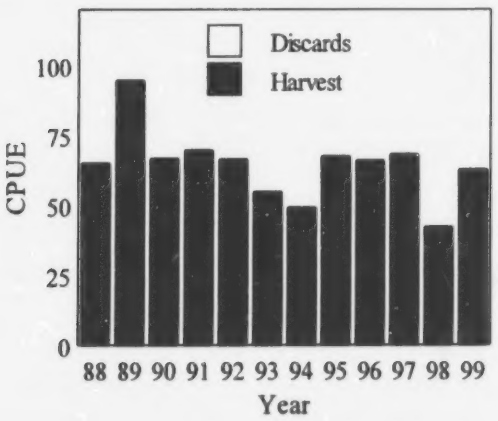



Figure 5-5.6. Chub gill net CPUE (kg/km) for management area 5-5.

## MANAGEMENT AREA 5-6

### GENERAL

- Total quota was 96,605 kg, including a lake whitefish allowance of 8,000 kg (Table 5-6.1). There was no lake trout allowance.
- Harvest of all fish species under quota control decreased 60% to 46,773 kg (Table 5-6.1). Estimated value of these fish was $148,983.
- An additional 4,050 kg of fish of no commercial value was reported caught.

Table 5-6.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-6 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 60,820 | 24,859 | 40.9 | 26,447 | 88,783 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 4,558 | 4,204 | 92.2 | 4,207 | 5,931 |
| Lake Whitefish | 29,556 | 17,710 | 59.9 | 17,710 | 54,269 |
| Northern Pike | 0 | 0 | 0.0 | 0 | 0 |
| Walleye | 400 | 0 | 0.0 | 0 | 0 |
| Yellow Perch | 1,271 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 2,348 | 0 |
| Suckers | | 0 | | 111 | 0 |
| Total | 96,605 | 46,773 | | 50,823 | 148,983 |

## LAKE WHITEFISH

- The final quota available to all commercial fisheries was 21,556 kg (Table 5-6.1), with an additional temporary allowance of 8,000 kg for a total allowable harvest of 29,556 kg..
- Total harvest decreased by 59% to 17,710 kg, 82% of the final quota (Figure 5-6.1), and 60% of the total allowable harvest.
- Pre-recruit indices in southern Georgian Bay indicate that several relatively strong year-classes will continue to be vulnerable to the fishery in 2000 (Figures 5-8.4,5-8.5).
- Catch sample and effort information are currently unavailable.

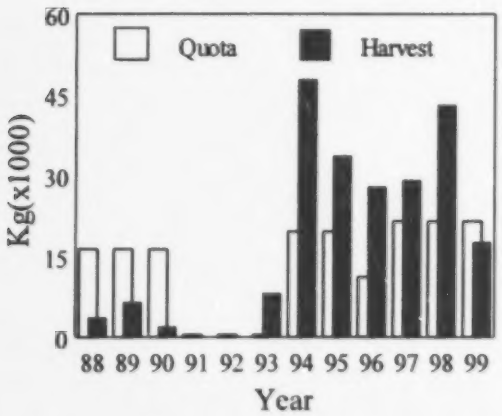



Figure 5-6.1. Lake whitefish quota and harvest (kg) for management area 5-6.

## CHUB

- The total quota available to all commercial fisheries was 60,820 kg (Table 5-6.1).
- Total harvest decreased 56% to 24,859 kg, 41% of the final quota (Figure 5-6.2).
- Non-aboriginal effort increased 6% to 381 km (Figure 5-6.3).
- Reported CPUE (harvested fish) decreased 46% to 54 kg/km (Figure 5-6.4). The discard component was unchanged at 5 kg/km.
- Age 5 to 8 fish dominated the commercial catch in 1998 (Tables 5-6.2,5-6.3).
- Overall abundance declined in 1999 based upon CPUE. It is expected to remain unchanged in 2000 based upon recruitment indices in other areas of Georgian Bay (Figure 5-8.11).

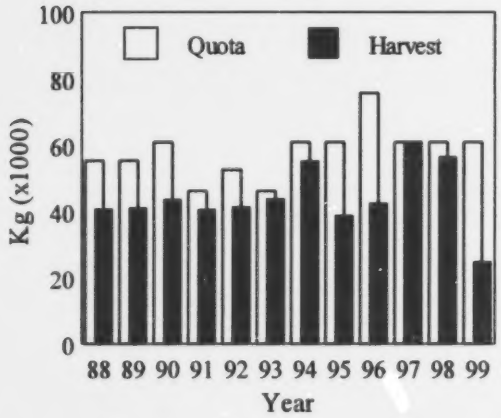



Figure 5-6.2. Chub quota and harvest (kg) for management area 5-6.

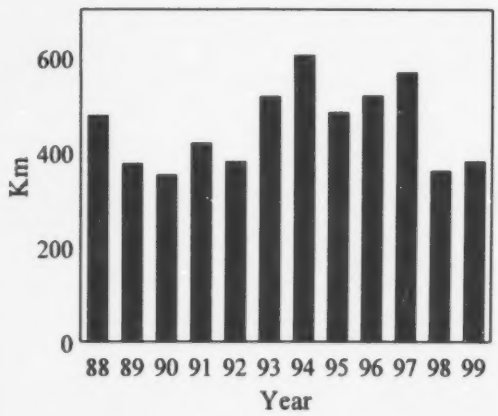



Figure 5-6.3. Chub gill net effort (km) for management area 5-6. (Non-aboriginal effort only)

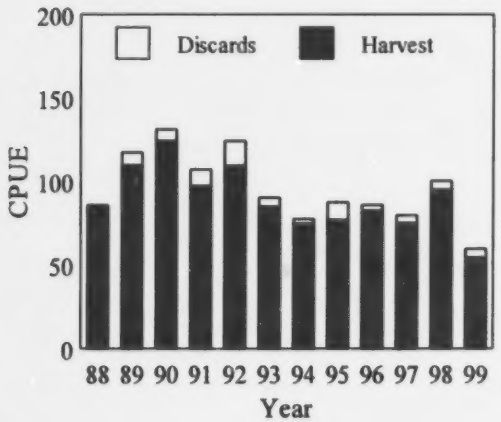



Figure 5-6.4. Chub (harvest+discards) gill net CPUE (kg/km) for management area 5-6. CPUE corrected for discarding. (Non-aboriginal data only)

Table 5-6.2. Estimated number of harvested and discarded chub in gill nets in management area 5-6.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | | 443 | 0 | 562 | 0 | 0 | 0 | 1311 | 199 | 1966 | 0 | |
| 4 | N | 2443 | 10305 | 0 | 753 | 895 | 9466 | 5041 | 2958 | 6802 | 6168 | N |
| 5 | O | 41014 | 39465 | 17737 | 2878 | 4724 | 34017 | 28885 | 23940 | 43205 | 25711 | O |
| 6 | | 149560 | 172400 | 78659 | 43873 | 18774 | 69794 | 42238 | 53877 | 68385 | 50500 | |
| 7 | D | 16469 | 101598 | 82799 | 88284 | 40300 | 91776 | 56723 | 69626 | 62881 | 59549 | D |
| 8 | A | 7460 | 11570 | 26169 | 74108 | 45929 | 50313 | 36196 | 47633 | 37380 | 16079 | A |
| 9 | T | 2819 | 2665 | 540 | 16492 | 29386 | 7402 | 11605 | 13426 | 4534 | 5377 | T |
| 10 | A | 0 | 0 | 0 | 0 | 4533 | 1863 | 2361 | 4872 | 171 | 2841 | A |
| 11 | | 0 | 0 | 0 | 0 | 1086 | 1479 | 1147 | 676 | 171 | 0 | |
| 12 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 13 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| >13 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mean Age | | 6.0 | 6.6 | 6.6 | 7.1 | 7.5 | 6.7 | 6.8 | 6.8 | 6.3 | 6.3 | |

Note: corrected for discards.

Table 5-6.3. CPUE-at-age (number/km) for harvested and discarded chub in gill nets in management area 5-6.

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 2 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 3 | | 1.2 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | 2.7 | 0.4 | 3.4 | 0.0 | |
| 4 | N | 6.5 | 29.3 | 0.0 | 2.0 | 2.2 | 15.7 | 10.4 | 5.7 | 11.8 | 17.9 | N |
| 5 | O | 109.0 | 112.1 | 42.3 | 7.5 | 11.8 | 56.4 | 59.7 | 45.5 | 74.7 | 74.5 | O |
| 6 | | 397.6 | 489.6 | 187.7 | 114.6 | 46.7 | 115.7 | 87.3 | 100.1 | 118.3 | 146.4 | |
| 7 | D | 43.8 | 288.6 | 197.6 | 230.5 | 100.3 | 152.1 | 117.2 | 127.0 | 108.8 | 172.6 | D |
| 8 | A | 19.8 | 32.9 | 62.5 | 193.5 | 114.3 | 83.4 | 74.8 | 86.0 | 64.7 | 46.6 | A |
| 9 | T | 7.5 | 7.6 | 1.3 | 43.1 | 73.1 | 12.3 | 24.0 | 24.0 | 7.8 | 15.6 | T |
| 10 | A | 0.0 | 0.0 | 0.0 | 0.0 | 11.3 | 3.1 | 4.9 | 8.6 | 0.3 | 8.2 | A |
| 11 | | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 2.5 | 2.4 | 1.2 | 0.3 | 0.0 | |
| 12 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 13 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| >13 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

Note: corrected for discards.

## LAKE TROUT/BACKCROSS

- Total quota available for all commercial fisheries was 4,558 kg (Table 5-6.1).
- Total harvest was 4,204 kg, 92% of the final quota (Figure 5-6.5).

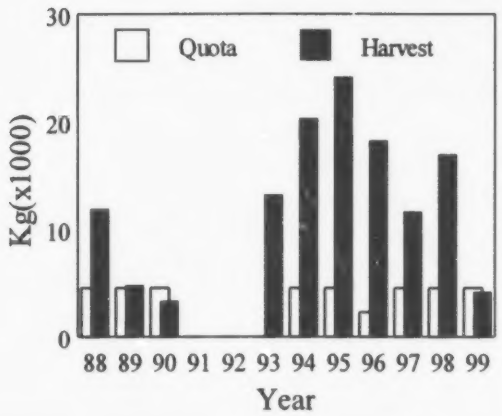



Figure 5-6.5. Lake trout/backcross quota and harvest (kg) for management area 5-6.

## MANAGEMENT AREA 5-7

### GENERAL

- Quota available to all commercial fisheries was 81,211 kg (Table 5-7.1), including a lake trout allowance of 500 kg, and a lake whitefish allowance of 18,000 kg.
- Total harvest of all fish species under quota control decreased 15% to 67,878 kg (Table 5-7.1). Estimated value of these fish increased 30% to $200,795.
- Harvest and estimated value of all species sold was 68,452 kg and $201,121, respectively. An additional 5,626 kg of fish of no commercial value was reported caught.

Table 5-7.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-7 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 22 | 0 |
| Chub | 12,202 | 8,858 | 72.6 | 8,940 | 31,637 |
| Lake Sturgeon | 589 | 242 | 41.1 | 312 | 932 |
| Lake Trout | 1,976 | 7,664 | 387.9 | 7,755 | 10,813 |
| Lake Whitefish | 57,742 | 49,631 | 86.0 | 49,676 | 152,088 |
| Northern Pike | 1,175 | 77 | 6.6 | 77 | 119 |
| Walleye | 2,090 | 1,406 | 67.3 | 1,406 | 5,206 |
| Yellow Perch | 5,437 | 0 | 0.0 | 0 | 0 |
| Burbot | | 4 | | 3,802 | 0 |
| Chinook Salmon | | 210 | | 210 | 0 |
| Common Carp | | 0 | | 313 | 0 |
| Lake Herring | | 352 | | 353 | 326 |
| Longnose Gar | | 0 | | 5 | 0 |
| Smallmouth Bass | | 0 | | 2 | 0 |
| Suckers | | 8 | | 1,205 | 0 |
| Total | 81,211 | 68,452 | | 74,078 | 201,121 |

## LAKE WHITEFISH

- The quota available to all commercial fisheries was 39,742 kg (Table 5-7.1), with an additional temporary allowance of 18.000 kg for a total allowable harvest of 57,742 kg..
- Total harvest decreased by 16% to 49,631 kg, 125% of the quota (Figure 5-7.1), and 86% of the total allowable catch.
- Reported gill net effort was 349 km (Figure 5-7.2).
- CPUE increased by 54% to 142 kg/km (Figure 5-7.3).
- Age composition from the commercial catch sampling was 12% 4 year olds, 25% 5 year olds, 26% 6 year olds, 10% 7 year olds, 16% 8 year olds, 8% 9 year olds, and 3% 10year olds and older.
- Based upon commercial catch age composition and southern Georgian Bay year-class indices (Figure 5-8.5), several good year-classes are expected to continue to make up the commercial harvest in 2000.

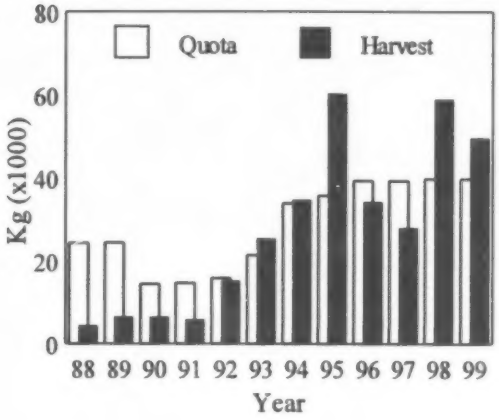



Figure 5-7.1. Lake whitefish quota and harvest (kg) for management area 5-7.

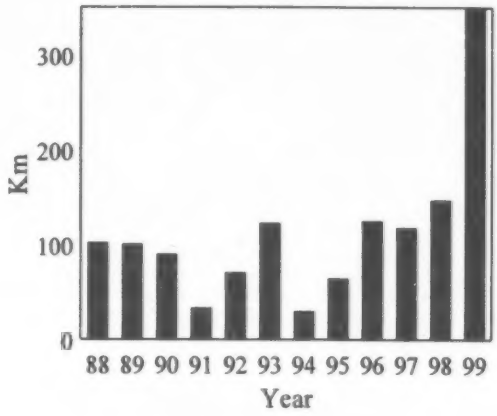



Figure 5-7.2. Lake whitefish gill net effort (km) for management area 5-7.

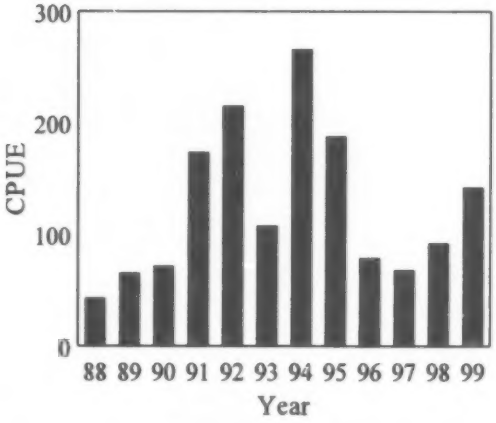



Figure 5-7.3. Lake whitefish gill net CPUE (kg/km) for management area 5-7.

## CHUB

- Quota available to all commercial fisheries was 12,202 kg.
- Harvest decreased 15% to 8,858 kg, 73% of the quota (Figure 5-7.4).
- Reported effort increased 57% to 212 km (Figure 5-7.5).
- CPUE decreased 48% to 42 kg/km (Figure 5-7.6).
- Age composition in the commercial catch was made up of 2% 4 year olds, 11% 5 year olds, 28% 6 year olds, 32% 7 year olds, 16% 8 year olds, 7% 9 year olds, and 4% 10 year olds and older.
- Abundance appeared to decline in 1999.
- Abundance should not change in 2000 as stronger year-classes make up the catch.

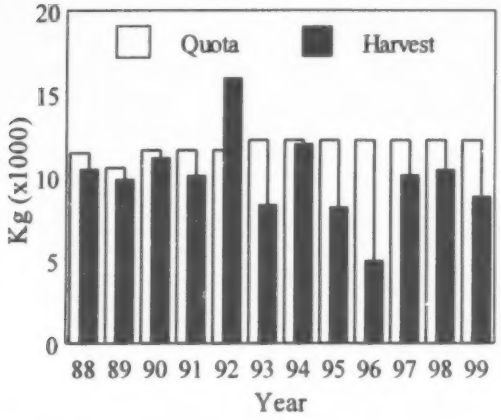



Figure 5-7.4. Chub quota and harvest (kg) for management area 5-7.

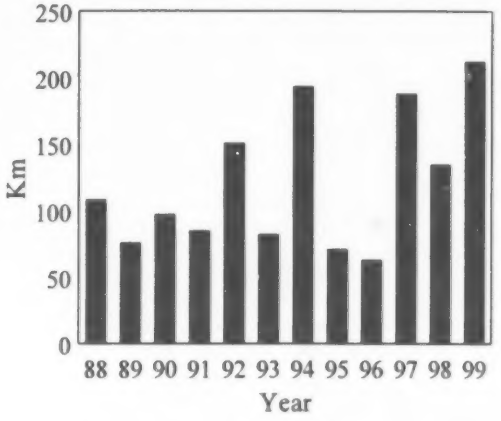



Figure 5-7.5. Chub gill net effort (km) for management area 5-7.

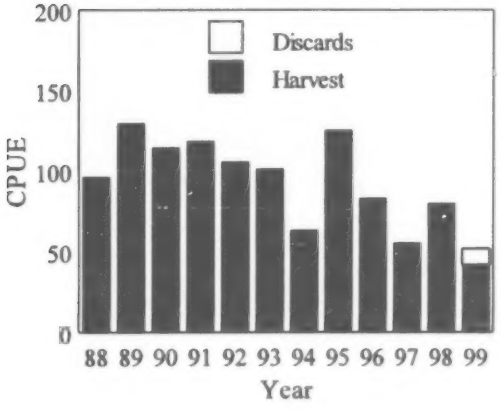



Figure 5-7.6. Chub gill net CPUE (kg/km) for management area 5-7.

## YELLOW PERCH

- The quota available to all commercial fisheries was 5,437 kg (Table 5-7.1).
- No harvest was reported in 1999 (Figure 5-7.7).
- There was no reported effort in 1999 (Figure 5-7.8).
- Yellow perch abundance appears to have declined greatly relative to past years.
- Based on very low harvests in a number of recent years, abundance is unlikely to increase in the near future.

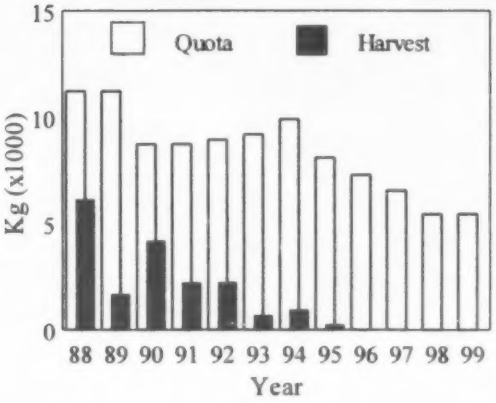



Figure 5-7.7. Yellow perch quota and harvest (kg) for management area 5-7.

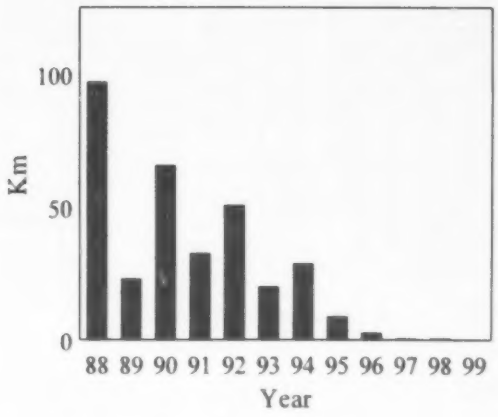



Figure 5-7.8. Yellow perch gill net effort (km) for management area 5-7.

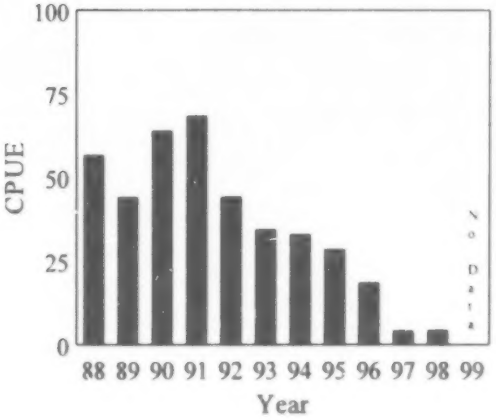



Figure 5-7.9. Yellow perch gill net CPUE (kg/km) for management area 5-7.

## MANAGEMENT AREA 5-8

### GENERAL

- Quota issued on commercial fishing licences was 56,371 kg, including a lake trout allowance of 1,625 kg, and a lake whitefish allowance of 2,000 kg.
- Harvest of all fish species under quota control increased to 101,207 kg (Table 5-8.1). Estimated value of these fish was $285,406.
- Harvest of all species sold was 101,207 kg (Table 5-8.1). An additional 3,001 kg of fish of no commercial value was reported caught.

Table 5-8.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-8 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 19,985 | 20,348 | 101.8 | 21,611 | 72,670 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 6,161 | 21,196 | 344.0 | 21,198 | 29,907 |
| Lake Whitefish | 29,091 | 59,663 | 205.1 | 59,663 | 182,829 |
| Northern Pike | 0 | 0 | 0.0 | 0 | 0 |
| Walleye | 0 | 0 | 0.0 | 0 | 0 |
| Yellow Perch | 1,134 | 0 | 0.0 | 0 | 0 |
| Burbot | | 0 | | 1,719 | 0 |
| Chinook Salmon | | 0 | | 3 | 0 |
| Suckers | | 0 | | 14 | 0 |
| Total | 56,371 | 101,207 | | 104,208 | 285,406 |

## LAKE WHITEFISH

- The quota available to the commercial fishery was 27,091 kg (Figure 5-8.1), with an additional temporary allowance of 2,000 kg for a total allowable harvest of 29,091 kg..
- The total harvest increased by 29% to 59,663 kg, 220% of the quota (Figure 5-8.1), and 205% of the total allowable harvest.
- No gill net effort was available.
- CPUE from experimental commercial assessment netting was 545 kg/km (Figure 5-8.3).
- Abundance appeared to increase in 1999.
- Abundance is not expected to change greatly in 2000 (Figure 5-8.6) due to the continued presence of several strong year-classes in the fishery (Figures 5-8.4,5-8.5).

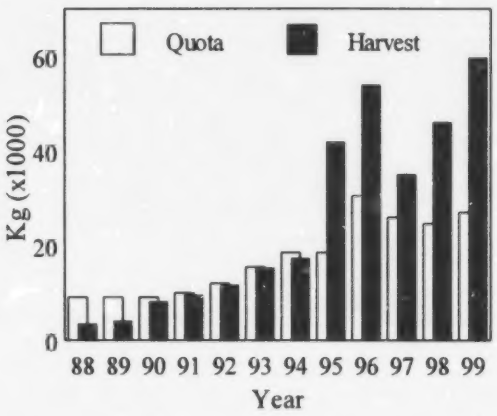



Figure 5-8.1. Lake whitefish quota and harvest (kg) for management area 5-8.

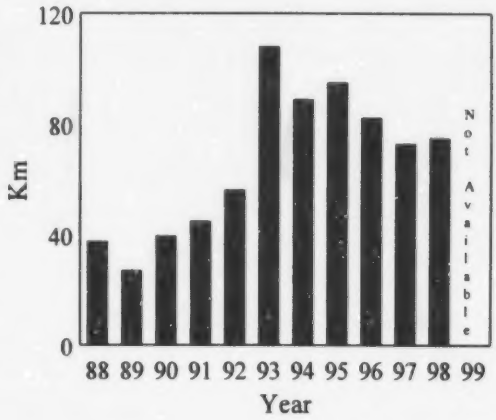



Figure 5-8.2. Lake whitefish gill net effort (km) for management area 5-8.

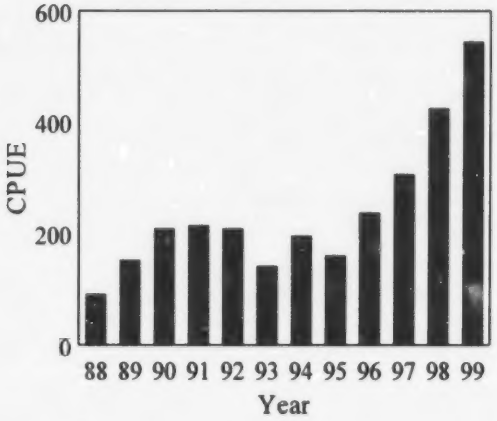



Figure 5-8.3. Lake whitefish gill net CPUE (kg/km) for management area 5-8.

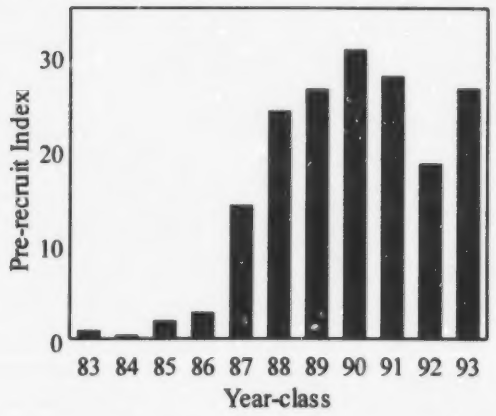



Figure 5-8.4. Indices of year-class strength for lake whitefish from index gillnetting in management area 5-8, using multi-filament nets.

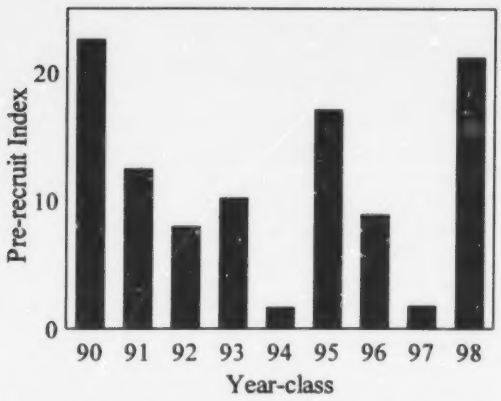



Figure 5-8.5. Indices of year-class strength for lake whitefish from index gillnetting in management area 5-8, using monofilament nets.

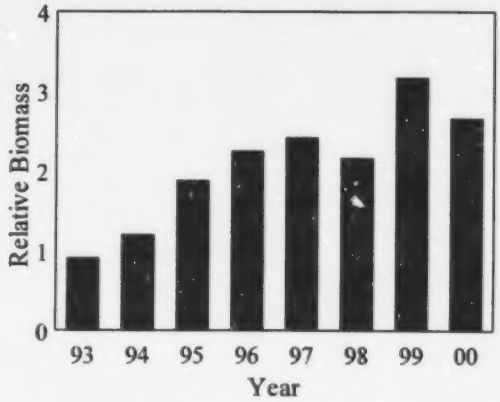



Figure 5-8.6. Exploitable biomass of whitefish (ages 4-10) in management area 5-8.

Table 5-8.2. Estimated number of lake whitefish harvested in gill nets in management area 5-8.

| AGE | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | O |
| 3 | 509 | 623 | 20 | 72 | 0 | 0 | 121 | 1229 | 0 | T |
| 4 | 2459 | 3012 | 3326 | 3838 | 2865 | 5810 | 5256 | 2874 | 1541 | |
| 5 | 900 | 1102 | 2273 | 4883 | 4512 | 9895 | 14707 | 3541 | 3356 | A |
| 6 | 486 | 596 | 268 | 1128 | 2204 | 5774 | 6529 | 2512 | 2838 | V |
| 7 | 95 | 116 | 221 | 155 | 525 | 2886 | 3221 | 1275 | 1733 | A |
| 8 | 330 | 404 | 107 | 114 | 105 | 301 | 838 | 742 | 592 | I |
| 9 | 620 | 760 | 181 | 72 | 178 | 55 | 288 | 250 | 531 | L |
| 10 | 56 | 68 | 201 | 41 | 73 | 169 | 139 | 0 | 429 | A |
| 11 | 39 | 48 | 60 | 0 | 0 | 85 | 73 | 50 | 12 | B |
| 12 | 78 | 96 | 27 | 21 | 31 | 0 | 146 | 0 | 12 | L |
| 13 | 0 | 21 | 20 | 21 | 0 | 55 | 0 | 26 | 12 | E |
| >13 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | |
| Mean Age | -- | 5.1 | 5 | 5.1 | 5.2 | 5.3 | 5.5 | 5.7 | 6.6 | |

Table 5-8.3. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in management area 5-8.

| AGE | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | O |
| 3 | 10.1 | 13.7 | 0.4 | 0.7 | 0 | 0 | 0.4 | 16.0 | 0 | T |
| 4 | 49 | 66 | 59.3 | 35.5 | 31.6 | 27.9 | 25.5 | 37.3 | 28.5 | |
| 5 | 17.9 | 24.2 | 40.5 | 45.2 | 49.8 | 40.4 | 67.7 | 46.0 | 62.2 | A |
| 6 | 9.7 | 13.1 | 4.8 | 10.4 | 24.3 | 20.7 | 28.6 | 32.6 | 52.6 | V |
| 7 | 1.9 | 2.6 | 3.9 | 1.4 | 5.8 | 8.5 | 13.9 | 16.6 | 32.1 | A |
| 8 | 6.6 | 8.9 | 1.9 | 1.1 | 1.2 | 2 | 3.5 | 9.6 | 11.0 | I |
| 9 | 12.4 | 16.7 | 3.2 | 0.7 | 2 | 0.5 | 1.1 | 3.3 | 9.8 | L |
| 10 | 1.1 | 1.5 | 3.6 | 0.4 | 0.8 | 0.3 | 0.5 | 0.0 | 7.9 | A |
| 11 | 0.8 | 1.1 | 1.1 | 0 | 0 | 0.2 | 0.3 | 0.7 | 0.2 | B |
| 12 | 1.6 | 2.1 | 0.5 | 0.2 | 0.4 | 0 | 0.6 | 0.0 | 0.2 | L |
| 13 | 0 | 0.5 | 0.4 | 0.2 | 0 | 0.5 | 0 | 0.3 | 0.2 | E |
| >13 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | |

## CHUB

- Quota issued was 19,985 kg.
- Total harvest decreased 20% to 20,348 kg, 102% of the quota (Figure 5-8.7).
- Non-aboriginal effort increased 12% to 274 km (Figure 5-8.8).
- Non-aboriginal harvested CPUE decreased 34% to 57 kg/km (Figure 5-8.9).
- A sample of the commercial harvest consisted of 8% 5 year olds, 35% 6 year olds, 28% 7 year olds, 18% 8 year olds, 8% 9 year olds, and 4% 10 year olds and older.
- Abundance appeared to decrease in 1999 based on CPUE.
- Overall abundance will likely not change greatly in 2000 as the weaker 1992 and 1993 year-classes begin to comprise less of the catch and the stronger post 1994 year-classes enter the fishery (Figure 5-8.11).

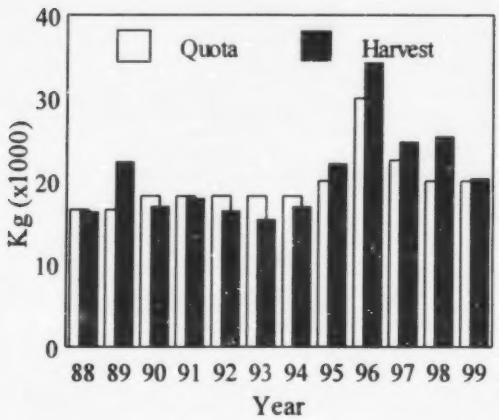



Figure 5-8.7. Chub harvest and quota (kg) for management area 5-8.

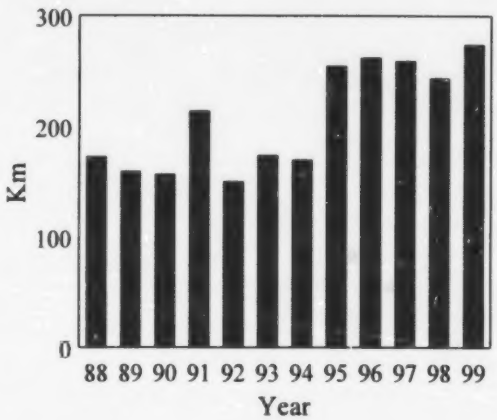



Figure 5-8.8. Chub gill net effort (km) for management area 5-8.

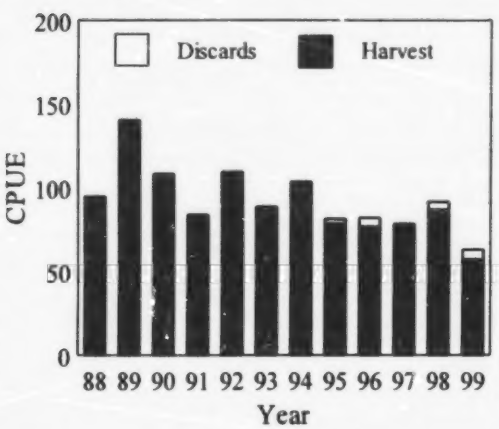



Figure 5-8.9. Chub (harvest+discards) gill net CPUE (kg/km) for management area 5-8. CPUE corrected for discarding 1995 onward.

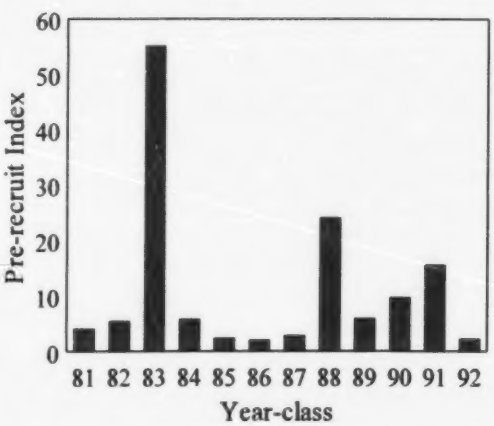



Figure 5-8.10. Indices of year-class strength for chub from index gillnetting in management area 5-8, using multi-filament nets.

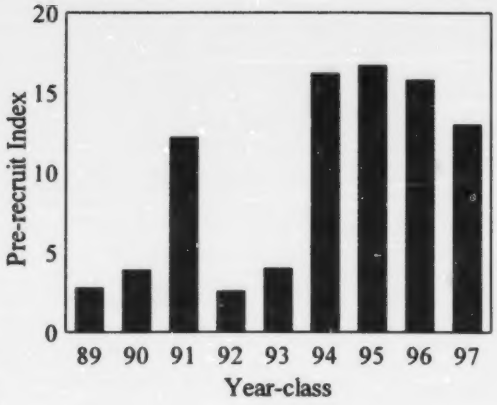



Figure 5-8.11. Indices of year-class strength for chub from index gillnetting in management area 5-8, using monofilament nets.

## LAKE TROUT/BACKCROSS

- Quota was 4,536 kg (Figure 5-8.12). An additional temporary allowance of 1,625 kg was available on commercial fishing licences. The total allowable harvest was 6,161 kg (Table 5-8.1).
- The total harvest decreased to 21,196 kg, 467% of the quota (Figure 5-8.12). This harvest was 344% of the total allowable harvest (Table 5-8.1).

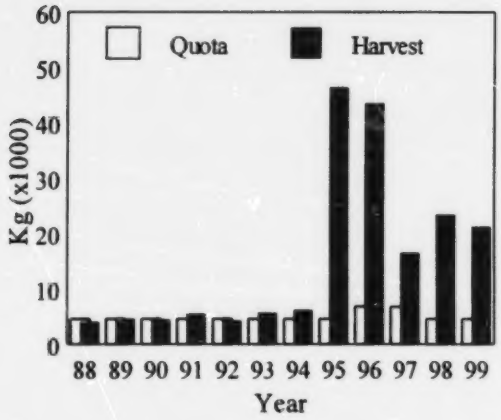



Figure 5-8.12. Lake trout/backcross quota and harvest (kg) for management area 5-8.

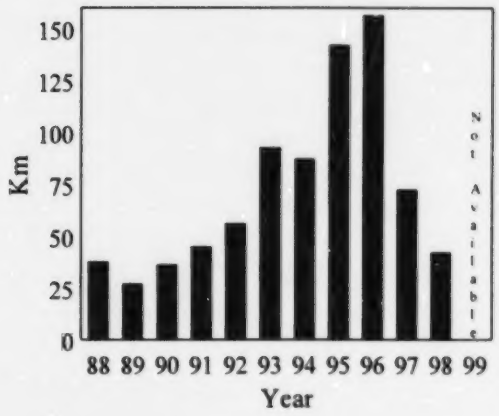



Figure 5-8.13. Lake whitefish targeted gill net effort (km) which caught trout/backcross in management area 5-8.

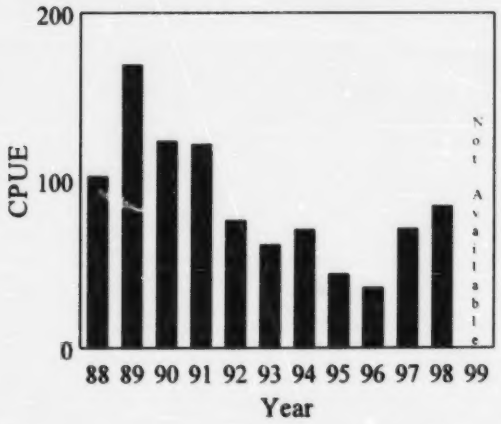
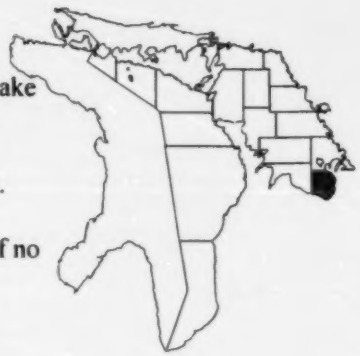



Figure 5-8.14. Lake trout/backcross gill net CPUE (kg/km) for management area 5-8.

## MANAGEMENT AREA 5-9

### GENERAL



- Quota issued on commercial fish licences was 95,472 kg, including a lake whitefish allowance of 2,000 kg. There was no lake trout allowance.
- Harvest of all species under quota control decreased 2% to 78,753 kg (Table 5-9.1). Estimated value of these fish increased 1% to $236,664.
- Harvest and estimated value of all species sold was 78,837 kg and $236,680, respectively (Table 5-9.1). An additional 7,369 kg of fish of no commercial value was reported caught.

Table 5-9.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 5-9 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 0 | 0 | 0.0 | 0 | 0 |
| Chub | 9,958 | 579 | 5.8 | 579 | 2,066 |
| Lake Sturgeon | 136 | 124 | 91.2 | 2,041 | 477 |
| Lake Trout | 4,882 | 3,079 | 63.1 | 3,117 | 4,344 |
| Lake Whitefish | 76,267 | 74,911 | 98.2 | 74,911 | 229,554 |
| Northern Pike | 0 | 0 | 0.0 | 0 | 0 |
| Walleye | 820 | 60 | 7.3 | 60 | 223 |
| Yellow Perch | 3,409 | 0 | 0.0 | 1 | 0 |
| Alewife | | 0 | | 29 | 0 |
| Brown Trout | | 0 | | 18 | 0 |
| Burbot | | 0 | | 1,179 | 0 |
| Chinook Salmon | | 49 | | 154 | 0 |
| Lake Herring | | 17 | | 17 | 16 |
| Pink Salmon | | 2 | | 2 | 0 |
| Rainbow Trout | | 0 | | 7 | 0 |
| Round Whitefish | | 16 | | 16 | 0 |
| Suckers | | 0 | | 4,074 | 0 |
| White Bass | | 0 | | 1 | 0 |
| Total | 95,472 | 78,837 | | 86,206 | 236,680 |

## LAKE WHITEFISH

- The quota issued was 72,267 kg (Figure 5-9.1), with an additional temporary allowance of 4,000 kg for a total allowable harvest of 76,267 kg..
- The harvest increased by 5% to 74,911 kg, 104% of the quota (Figure 5-9.1) and 98% of the total allowable harvest.
- Gill net effort decreased 5% to 226 km (Figure 5-9.2).
- CPUE increased by 1% to 331 kg/km (Figure 5-9.3).
- Catch sampling indicated the commercial harvest consisted of 40% 4 year olds, 21% 5 year olds, 17% 6 year olds, 9% 7 year olds, 7% 8 year olds, 3% 9 year olds, and 4% 10 year olds and older.
- The mean age was 5.4 years for harvested whitefish.
- Abundance should remain relatively high in 2000 based on several strong year-classes in the fishery (Figures 5-8.4,5-8.5).

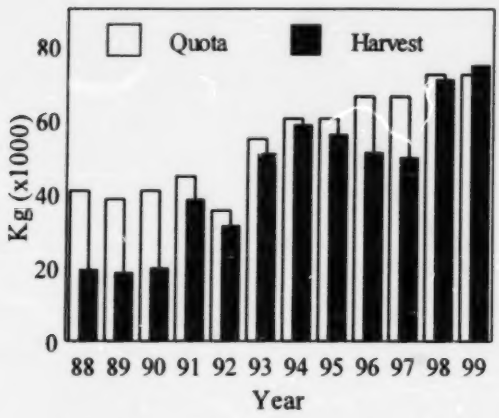



Figure 5-9.1. Lake whitefish quota and harvest (kg) for management area 5-9.

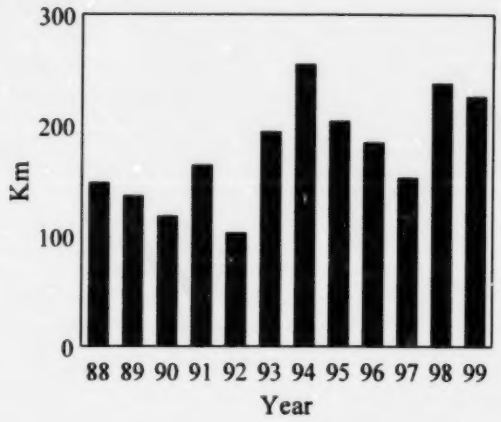



Figure 5-9.2. Lake whitefish gill net effort (km) for management area 5-9.

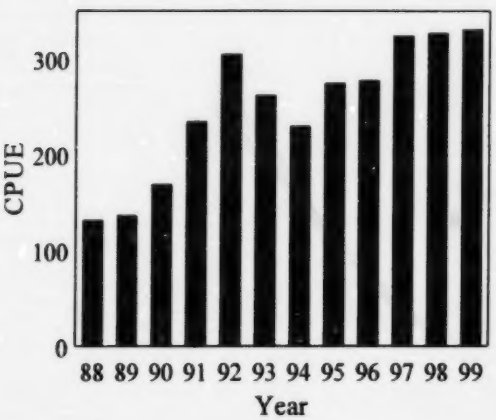



Figure 5-9.3. Lake whitefish gill net CPUE (kg/km) for management area 5-9.

**CHUB**

- Quota issued was 9,958 kg.
- Harvest decreased 89% to 579 kg, 6% of the quota (Figure 5-9.4).
- Effort decreased 88% to 14 km (Figure 5-9.5).
- CPUE decreased 3% to 43 kg/km (Figure 5-9.6).
- Abundance may decline in 2000 as relatively weaker year-classes dominate the catch.

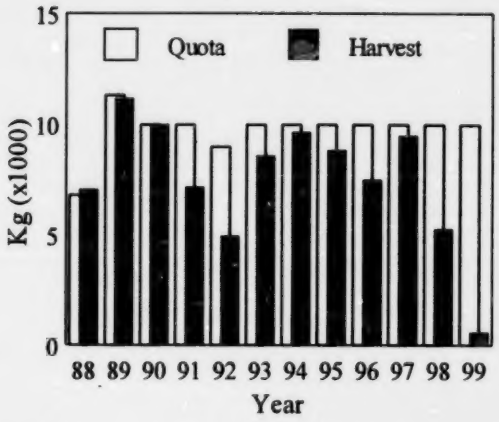



Figure 5-9.4. Chub quota and harvest (kg) for management area 5-9.

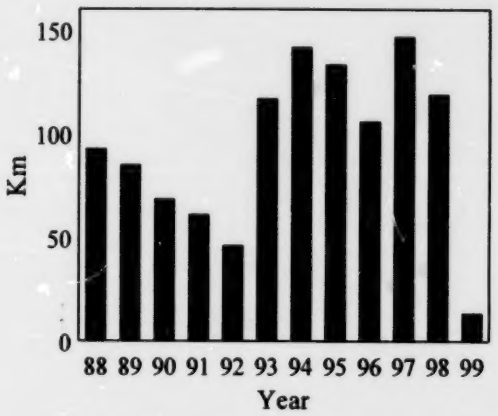



Figure 5-9.5. Chub gill net effort (km) for management area 5-9.

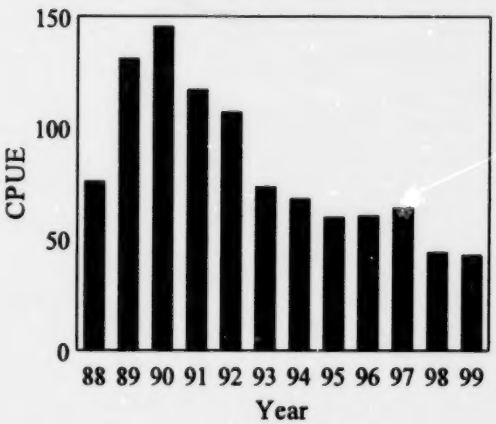



Figure 5-9.6. Chub gill net CPUE (kg/km) for management area 5-9.

## LAKE TROUT/BACKCROSS

- Quota was 4,882 kg. There was no additional lake trout allowance.
- The harvest decreased 11% to 3,079 kg, 63% of the quota (Figure 5-9.7).
- Lake whitefish effort which harvested lake trout increased 22% to 226 km (Figure 5-9.8).
- CPUE decreased 18% to 14 kg/km (Figure 5-9.9).

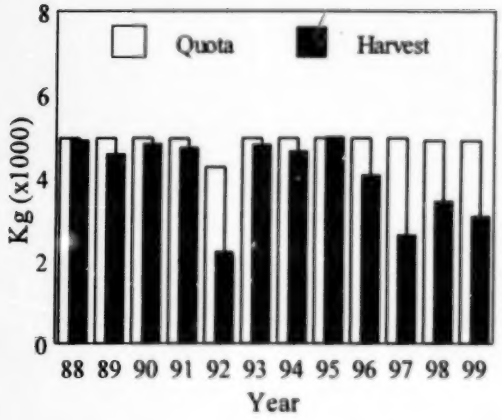



Figure 5-9.7. Lake trout/backcross quota and harvest (kg) for management area 5-9.

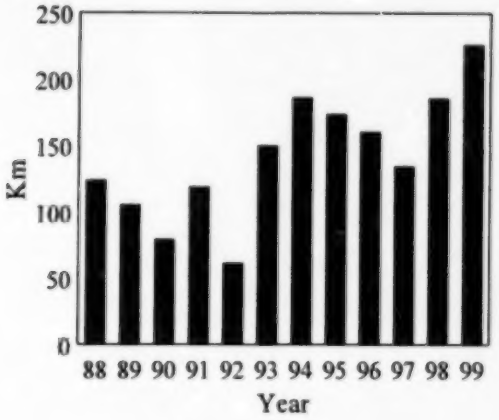



Figure 5-9.8. Lake whitefish targeted gill net effort (km) which caught trout/backcross in management area 5-9.

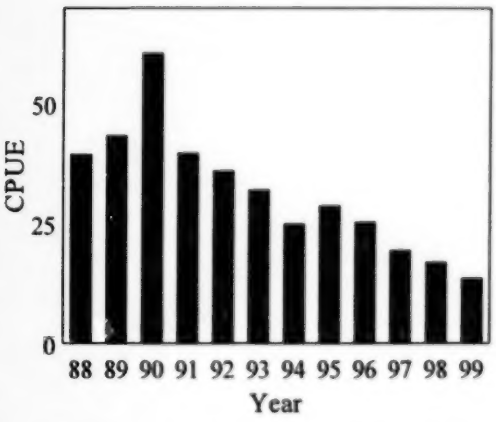



Figure 5-9.9. Lake trout/backcross gill net CPUE (kg/km) for management area 5-9.

## NORTH CHANNEL

### GENERAL

- Total quota (including lake trout allowance) issued on commercial fish licences and held by the Crown in the North Channel was 435,076 kg (Table 6.1).
- Harvest of all fish species under quota control decreased 19% to 249,515 kg. Estimated value of the harvest of species under quota control decreased 17% to $570,370.
- Total harvest and estimated value of all fish species was 265,829 kg and $582,488, respectively (Table 6.1). An additional 32,570 kg of fish of no commercial value was reported caught.

Table 6.1. Quota, harvest, percent quota taken, catch, and estimated value by species for the North Channel of Lake Huron in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 6,318 | 0 | 0.0 | 8 | 0 |
| Chub | 0 | 0 | 0.0 | 1 | 1 |
| Lake Sturgeon | 5,135 | 1,062 | 20.7 | 1,663 | 7,512 |
| Lake Trout | 10,159 | 7,978 | 78.5 | 8,492 | 14,597 |
| Lake Whitefish | 264,307 | 223,499 | 84.6 | 229,034 | 472,361 |
| Northern Pike | 9,128 | 889 | 9.7 | 1,018 | 1,469 |
| Walleye | 9,924 | 5,738 | 57.8 | 6,388 | 23,782 |
| Yellow Perch | 32,047 | 10,349 | 32.3 | 10,350 | 50,648 |
| Alewife | | 0 | | 1 | 0 |
| Brown Bullhead | | 4 | | 44 | 0 |
| Burbot | | 8 | | 1,982 | 0 |
| Chinook Salmon | | 74 | | 894 | 0 |
| Coho Salmon | | 72 | | 72 | 0 |
| Common Carp | | 192 | | 357 | 114 |
| Gizzard Shad | | 0 | | 41 | 0 |
| Lake Herring | | 7,204 | | 7,835 | 6,814 |
| Pink Salmon | | 1,151 | | 1,927 | 0 |
| Rainbow Smelt | | 5,831 | | 5,844 | 3,214 |
| Rainbow Trout | | 38 | | 320 | 0 |
| Redhorse Sucker | | 5 | | 5 | 0 |
| Rock Bass | | 3 | | 699 | 0 |
| Round Whitefish | | 1,581 | | 1,774 | 1,976 |
| Smallmouth Bass | | 3 | | 3 | 0 |
| Suckers | | 146 | | 19,486 | 0 |
| White Bass | | 2 | | 22 | 0 |
| Other/Mixed | | 0 | | 136 | 0 |
| Total | 337,018 | 265,829 | | 298,396 | 582,488 |

## MANAGEMENT AREA 6-1

### GENERAL

- Final quota available for commercial fishing activity was 331,242 kg. An additional 98,058 kg of quota was held by the Crown. This included a lake trout allowance of 4,528 kg, of which 2,950 kg was available on commercial fishing licences.
- Harvest of all fish species under quota control decreased 19% to 249,515 kg (Table 6-1.1). Estimated value of the harvest of species under quota control decreased 15% to $570,370.
- Harvest and estimated value of all fish species sold was 265,829 kg and $582,488, respectively (Table 6-1.2). An additional 32,570 kg of fish of no commercial value was reported caught.
- Data reported for assessment area NC03 in this management area section and the corresponding tables in Appendix 1, include data from assessment area NC04.

Table 6-1.1. Quota, harvest, and percent quota taken by quota species for management area 6-1 in 1999.

| Species | Quota | | | Harvest | % Quota Taken | |
|---|---|---|---|---|---|---|
| | Total (kg) | Original (kg) Allocation | Final (kg) Allocation | Total (kg) | Original Allocation | Final Allocation |
| Channel Catfish | 10,007 | 6,091 | 6,091 | 0 | 0.0 | 0.0 |
| Chub | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| Lake Sturgeon | 6,613 | 5,135 | 5,135 | 1,062 | 20.8 | 20.8 |
| Lake Trout | 13,250 | 9,387 | 9,387 | 7,978 | 85.0 | 85.0 |
| Lake Whitefish | 314,960 | 234,489 | 260,489 | 223,499 | 95.3 | 85.8 |
| Northern Pike | 16,490 | 8,792 | 8,792 | 889 | 10.1 | 10.1 |
| Walleye | 16,884 | 9,924 | 9,924 | 5,738 | 57.8 | 57.8 |
| Yellow Perch | 51,096 | 31,424 | 31,424 | 10,349 | 32.9 | 32.9 |
| Total | 429,300 | 305,242 | 331,242 | 249,515 | | |

Note: Final = Original issued quota plus all other allocations.

Table 6-1.2. Harvest, catch, and estimated value by species for management area 6-1 in 1999.

| Species | Harvest (kg) | Catch (kg) | Value ($) |
|---|---|---|---|
| Alewife | 0 | 1 | 0 |
| Brown Bullhead | 4 | 44 | 0 |
| Burbot | 8 | 1,982 | 0 |
| Channel Catfish | 0 | 8 | 0 |
| Chinook Salmon | 74 | 894 | 0 |
| Chub | 0 | 1 | 1 |
| Coho Salmon | 72 | 72 | 0 |
| Common Carp | 192 | 357 | 114 |
| Gizzard Shad | 0 | 41 | 0 |
| Lake Herring | 7,204 | 7,835 | 6,814 |
| Lake Sturgeon | 1,062 | 1,663 | 7,512 |
| Lake Trout | 7,978 | 8,492 | 14,597 |
| Lake Whitefish | 223,499 | 229,034 | 472,361 |
| Northern Pike | 889 | 1,018 | 1,469 |
| Pink Salmon | 1,151 | 1,927 | 0 |
| Rainbow Smelt | 5,831 | 5,844 | 3,214 |
| Rainbow Trout | 38 | 320 | 0 |
| Redhorse Sucker | 5 | 5 | 0 |
| Rock Bass | 3 | 699 | 0 |
| Round Whitefish | 1,581 | 1,774 | 1,976 |
| Smallmouth Bass | 3 | 3 | 0 |
| Suckers | 146 | 19,486 | 0 |
| Walleye | 5,738 | 6,388 | 23,782 |
| White Bass | 2 | 22 | 0 |
| Yellow Perch | 10,349 | 10,350 | 50,648 |
| Other/Mixed | 0 | 136 | 0 |
| Total | 265,829 | 298,396 | 582,488 |

## LAKE WHITEFISH

- The final quota available on commercial fishing licences was 260,489 kg. An additional 54,471 kg was held by the Crown (Table 6-1.1).
- The harvest decreased 20% to 223,499 kg, 86% of the available quota. This harvest was 71% of the total quota, including Crown held quota (Figure 6-1.1). The gill net fishery accounted for 100% of the harvest (Appendix 1, Table A1-48).
- Gill net effort decreased 29% to 1,788 km (Figure 6-1.4). No trap net effort was reported.
- The gill net CPUE over all three subareas increased 8% to 120 kg/km (Appendix 1, Table A1-49).
- Abundance appeared to increase slightly in 1999, based on CPUE.
- The 1993 and 1994 year-classes have remained strong and will continue to contribute to the fishery.
- Abundance is not expected to change greatly in 2000.

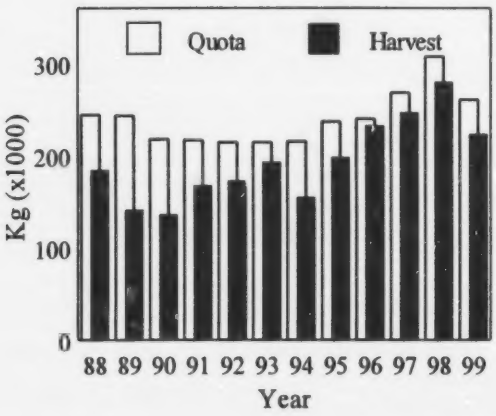



Figure 6-1.1. Lake whitefish quota and harvest (kg) for management area 6-1.

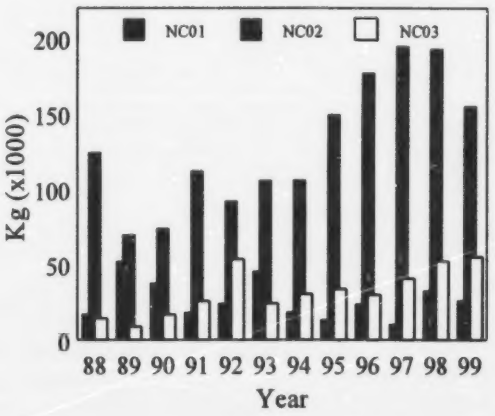



Figure 6-1.2. Lake whitefish gill net harvest (kg) by subarea for management area 6-1.

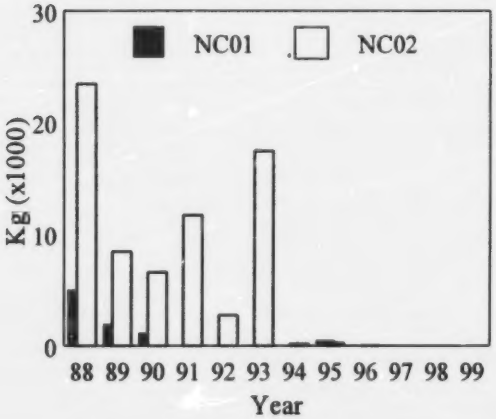



Figure 6-1.3. Lake whitefish trap net harvest (kg) by subarea for management area 6-1.

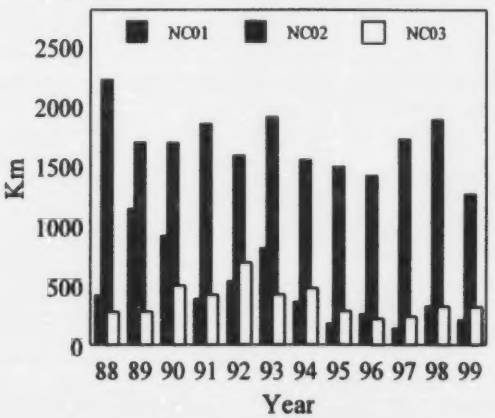



Figure 6-1.4. Lake whitefish gill net effort (km) for management area 6-1.

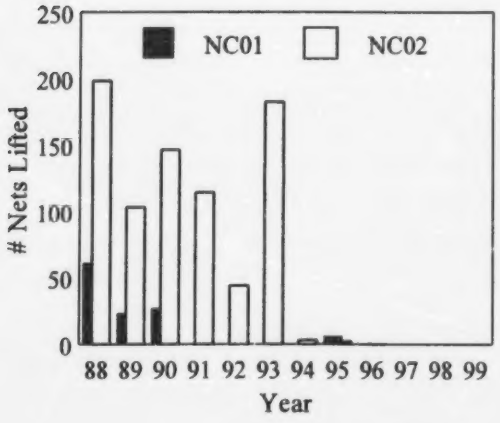



Figure 6-1.5. Lake whitefish trap net effort by subarea for management area 6-1.

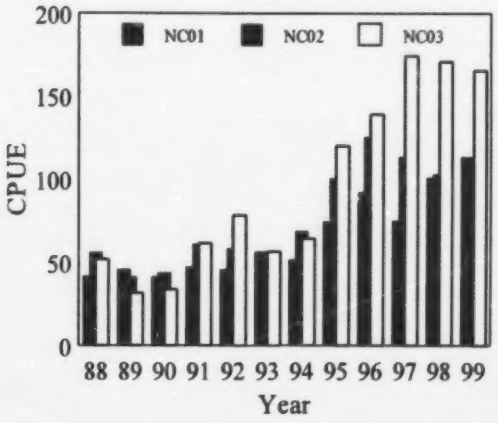



Figure 6-1.6. Lake whitefish gill net CPUE (kg/km) by subarea for management area 6-1.

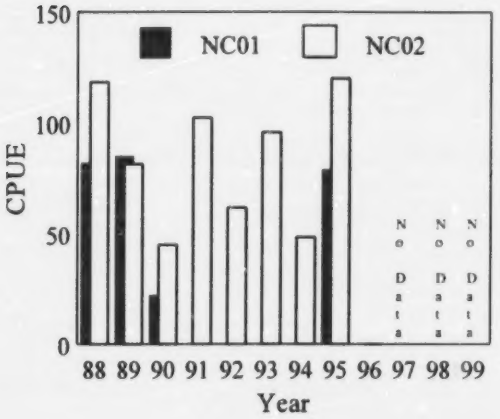



Figure 6-1.7. Lake whitefish trap net CPUE (kg/net) by subarea for management area 6-1.

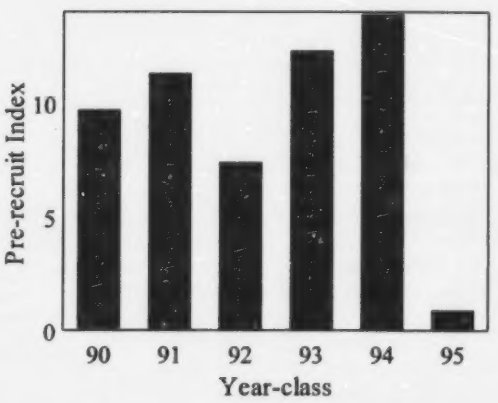



Figure 6-1.8. Lake whitefish year-class strength from index fishing in management area 6-1, 1993-1996.

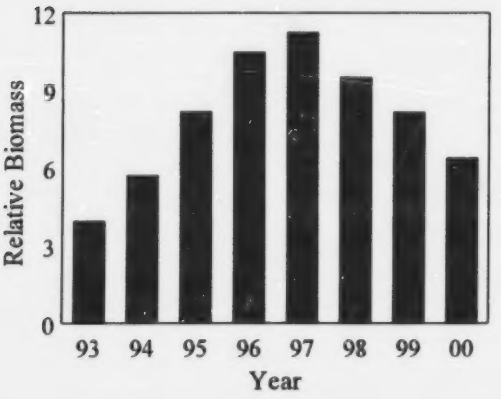



Figure 6-1.9. Exploitable biomass of whitefish (ages 4-10) in management area 6-1.

Table 6-1.3. Estimated number of lake whitefish harvested in gill nets in assessment area NC01 (subarea of management area 6-1).

| AGE | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 104 | 259 | 409 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 2192 | 3783 | 1647 | 1642 | 503 | 669 | 348 | 147 | 1554 | 223 |
| 5 | 2923 | 1088 | 8198 | 9812 | 4494 | 2706 | 4318 | 970 | 8954 | 2329 |
| 6 | 6681 | 622 | 2232 | 13842 | 5417 | 3136 | 5363 | 2097 | 8003 | 5730 |
| 7 | 5637 | 725 | 978 | 2308 | 2328 | 1936 | 3621 | 1505 | 4010 | 4408 |
| 8 | 3236 | 466 | 1928 | 1356 | 394 | 848 | 2716 | 1306 | 1784 | 3605 |
| 9 | 2297 | 363 | 1200 | 1176 | 143 | 189 | 767 | 719 | 636 | 575 |
| 10 | 2714 | 104 | 783 | 700 | 178 | 0 | 279 | 116 | 425 | 575 |
| 11 | 209 | 259 | 591 | 413 | 71 | 0 | 0 | 178 | 105 | 432 |
| 12 | 0 | 104 | 729 | 476 | 249 | 0 | 0 | 61 | 0 | 0 |
| 13 | 104 | 0 | 37 | 530 | 356 | 0 | 0 | 31 | 0 | 0 |
| >13 | 0 | 0 | 37 | 180 | 143 | 0 | 0 | 59 | 0 | 0 |
| Mean Age | 6.9 | 5.4 | 6.3 | 6.2 | 6.5 | 6.0 | 6.4 | 6.3 | 6.0 | 6.7 |

Table 6-1.4. Estimated number of lake whitefish harvested in gill nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 243 | 94 | 0 | 622 | 0 | 46 | 0 | 0 | 322 | 0 | 0 |
| 3 | 2762 | 9679 | 19876 | 6370 | 4932 | 8616 | 7411 | 2310 | 2263 | 7941 | 0 | 114 |
| 4 | 29131 | 6504 | 14573 | 55907 | 32754 | 33419 | 35219 | 46916 | 27470 | 30774 | 19980 | 7837 |
| 5 | 30001 | 17071 | 5463 | 8960 | 19314 | 23243 | 20920 | 35412 | 52522 | 39931 | 35392 | 20602 |
| 6 | 17101 | 8976 | 5922 | 1155 | 2399 | 7692 | 6921 | 19458 | 21860 | 31407 | 38818 | 22591 |
| 7 | 4804 | 3571 | 3323 | 821 | 752 | 1103 | 2157 | 6609 | 11410 | 18608 | 29684 | 14371 |
| 8 | 750 | 767 | 1018 | 837 | 340 | 155 | 732 | 1623 | 2854 | 4971 | 16555 | 12529 |
| 9 | 0 | 313 | 425 | 433 | 115 | 77 | 0 | 308 | 781 | 783 | 1713 | 7125 |
| 10 | 0 | 179 | 284 | 76 | 187 | 155 | 46 | 54 | 157 | 522 | 572 | 1988 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | 61 | 176 | 0 | 0 | 468 |
| 12 | 0 | 0 | 0 | 0 | 0 | 135 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 0 |
| Mean Age | 4.9 | 4.9 | 4.3 | 4.2 | 4.4 | 4.4 | 4.5 | 4.9 | 5.2 | 5.0 | 6.2 | 6.3 |

Table 6-1.5. Estimated number of lake whitefish harvested in trap nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| 2 | 101 | 66 | 351 | 0 | 0 | 0 | | | | | | |
| 3 | 663 | 617 | 2916 | 1432 | 19 | 577 | | | | | | |
| 4 | 5997 | 779 | 1186 | 6847 | 1170 | 4918 | N | N | N | N | N | N |
| 5 | 8080 | 2030 | 786 | 754 | 1073 | 6406 | O | O | O | O | O | O |
| 6 | 3399 | 1969 | 1043 | 195 | 97 | 1817 | | | | | | |
| 7 | 709 | 612 | 365 | 300 | 0 | 325 | D | D | H | H | H | H |
| 8 | 936 | 154 | 274 | 109 | 0 | 66 | A | A | A | A | A | A |
| 9 | 0 | 245 | 239 | 56 | 0 | 52 | T | T | R | R | R | R |
| 10 | 0 | 48 | 286 | 0 | 0 | 208 | A | A | V | V | V | V |
| 11 | 0 | 0 | 36 | 0 | 0 | 0 | | | E | E | E | E |
| 12 | 0 | 10 | 0 | 0 | 0 | 52 | | | S | S | S | S |
| 13 | 0 | 0 | 6 | 0 | 0 | 0 | | | T | T | T | T |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| Mean Age | 4.9 | 5.5 | 5.4 | 4.2 | 4.4 | 4.8 | | | | | | |

Table 6-1.6. Estimated number of lake whitefish harvested in gill nets in assessment area NC03 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 59 | 567 | | 1237 | 1680 | 2168 | 2752 | 1100 | 274 | 390 | 0 | 498 |
| 4 | 2773 | 680 | N | 13321 | 20035 | 6200 | 10165 | 16553 | 8851 | 10417 | 6993 | 3777 |
| 5 | 2408 | 823 | O | 1456 | 11290 | 4051 | 2753 | 5750 | 9700 | 8415 | 9175 | 10261 |
| 6 | 452 | 677 | | 171 | 1297 | 1773 | 2981 | 1251 | 1663 | 6347 | 8202 | 9684 |
| 7 | 118 | 450 | D | 516 | 240 | 144 | 382 | 170 | 592 | 2017 | 10078 | 5159 |
| 8 | 0 | 129 | A | 171 | 337 | 54 | 76 | 169 | 198 | 254 | 2241 | 3553 |
| 9 | 0 | 242 | T | 234 | 0 | 0 | 0 | 84 | 0 | 187 | 88 | 884 |
| 10 | 59 | 66 | A | 140 | 0 | 0 | 0 | 0 | 0 | 17 | 30 | 0 |
| 11 | 0 | 0 | | 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 |
| 12 | 0 | 0 | | 140 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 4.7 | 5.2 | | 4.5 | 4.4 | 4.4 | 4.4 | 4.3 | 4.7 | 5.2 | 5.3 | 5.9 |

Table 6-1.7. Estimated number of harvested and released lake whitefish caught in trap nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 12 | 0 | 13 | 0 | 0 | | | | | | |
| 2 | 440 | 396 | 947 | 553 | 23 | 1959 | | | | | | |
| 3 | 1792 | 965 | 5769 | 3360 | 1110 | 5168 | N | N | N | N | N | N |
| 4 | 7013 | 875 | 1641 | 7927 | 1449 | 8069 | O | O | O | O | O | O |
| 5 | 8645 | 2110 | 873 | 811 | 1073 | 7106 | | | | | | |
| 6 | 3399 | 1969 | 1110 | 195 | 97 | 1817 | D | D | H | H | H | H |
| 7 | 2304 | 612 | 365 | 300 | 0 | 325 | A | A | A | A | A | A |
| 8 | 548 | 169 | 274 | 109 | 0 | 66 | T | T | R | R | R | R |
| 9 | 0 | 245 | 239 | 56 | 0 | 52 | A | A | V | V | V | V |
| 10 | 0 | 48 | 296 | 0 | 0 | 208 | | | E | E | E | E |
| 11 | 0 | 0 | 36 | 0 | 0 | 0 | | | S | S | S | S |
| 12 | 47 | 10 | 0 | 0 | 0 | 52 | | | T | T | T | T |
| 13 | 0 | 0 | 6 | 0 | 0 | 0 | | | | | | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| Mean Age | 4.7 | 4.9 | 4.8 | 3.9 | 4.1 | 4.4 | | | | | | |

Table 6-1.8. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in assessment area NC01 (subarea of management area 6-1).

| AGE | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.1 | 0.9 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 2.4 | 13.3 | 2.8 | 2.1 | 1.4 | 3.7 | 1.4 | 1.1 | 4.9 | 1.0 |
| 5 | 3.2 | 3.8 | 14.2 | 12.6 | 12.5 | 15.0 | 16.7 | 7.0 | 28.2 | 10.9 |
| 6 | 7.3 | 2.2 | 3.9 | 17.8 | 15.0 | 17.4 | 20.7 | 15.0 | 25.2 | 27.0 |
| 7 | 6.2 | 2.6 | 1.7 | 3.0 | 6.5 | 10.8 | 14.0 | 10.8 | 12.6 | 20.7 |
| 8 | 3.6 | 1.6 | 3.3 | 1.7 | 1.1 | 4.7 | 10.5 | 9.4 | 5.6 | 17.0 |
| 9 | 2.5 | 1.3 | 2.1 | 1.5 | 0.4 | 1.1 | 3.0 | 5.2 | 2.0 | 2.7 |
| 10 | 3.0 | 0.4 | 1.4 | 0.9 | 0.5 | 0.0 | 1.1 | 0.8 | 1.3 | 2.7 |
| 11 | 0.2 | 0.9 | 1.0 | 0.5 | 0.2 | 0.0 | 0.0 | 1.3 | 0.3 | 2.0 |
| 12 | 0.0 | 0.4 | 1.3 | 0.6 | 0.7 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| 13 | 0.1 | 0.0 | 0.1 | 0.7 | 1.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | 0.1 | 0.2 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |

Table 6-1.9. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.1 | 0.1 | 0.0 | 0.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| 3 | 1.2 | 5.7 | 11.8 | 3.5 | 3.1 | 4.5 | 4.8 | 1.6 | 1.6 | 4.6 | 0.0 | 0.1 |
| 4 | 13.1 | 3.9 | 8.6 | 30.4 | 20.7 | 17.5 | 22.8 | 31.5 | 19.4 | 18.0 | 10.7 | 6.2 |
| 5 | 13.5 | 10.1 | 3.2 | 4.9 | 12.2 | 12.2 | 13.6 | 23.8 | 37.1 | 23.2 | 18.9 | 16.2 |
| 6 | 7.7 | 5.3 | 3.5 | 0.6 | 1.5 | 4.0 | 4.5 | 13.1 | 15.5 | 18.3 | 20.8 | 17.8 |
| 7 | 2.2 | 2.1 | 2.0 | 0.5 | 0.5 | 0.6 | 1.4 | 4.4 | 8.1 | 10.8 | 15.9 | 11.3 |
| 8 | 0.3 | 0.5 | 0.6 | 0.5 | 0.2 | 0.1 | 0.5 | 1.1 | 2.0 | 2.9 | 8.9 | 9.9 |
| 9 | 0.0 | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.2 | 0.6 | 0.5 | 0.9 | 5.6 |
| 10 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 1.6 |
| 11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.4 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 6-1.10. CPUE-at-age (number/net lift) for lake whitefish harvested in trap nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |
| 2 | 0.5 | 0.6 | 2.4 | 0.0 | 0.0 | 0.0 | | | | | | |
| 3 | 3.4 | 6.0 | 20.0 | 12.6 | 0.4 | 3.2 | N | N | N | N | N | N |
| 4 | 30.3 | 7.6 | 8.1 | 60.1 | 26.6 | 27.0 | O | O | O | O | O | O |
| 5 | 40.8 | 19.7 | 5.4 | 6.6 | 24.4 | 35.2 | | | | | | |
| 6 | 17.2 | 19.1 | 7.1 | 1.7 | 2.2 | 10.0 | D | D | D | D | D | D |
| 7 | 3.6 | 5.9 | 2.5 | 2.6 | 0.0 | 1.8 | A | A | A | A | A | A |
| 8 | 4.7 | 1.5 | 1.9 | 1.0 | 0.0 | 0.4 | T | T | T | T | T | T |
| 9 | 0.0 | 2.4 | 1.6 | 0.5 | 0.0 | 0.3 | A | A | A | A | A | A |
| 10 | 0.0 | 0.5 | 2.0 | 0.0 | 0.0 | 1.1 | | | | | | |
| 11 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | | | | | | |
| 12 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | | | | | | |
| 13 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | | | | | | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |

Table 6-1.11. CPUE-at-age (number/km) for lake whitefish harvested in gill nets in assessment area NC03 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.3 | 2.6 | | 3.0 | 2.5 | 5.4 | 6.1 | 3.9 | 1.3 | 1.7 | 0.0 | 1.6 |
| 4 | 13.0 | 3.1 | N | 32.2 | 29.3 | 15.5 | 22.6 | 59.1 | 41.4 | 44.7 | 23.0 | 12.0 |
| 5 | 11.3 | 3.8 | O | 3.5 | 16.5 | 10.1 | 6.1 | 20.5 | 45.3 | 36.1 | 30.2 | 32.5 |
| 6 | 2.1 | 3.1 | | 0.4 | 1.9 | 4.4 | 6.6 | 4.5 | 7.8 | 27.3 | 27.0 | 30.7 |
| 7 | 0.6 | 2.1 | D | 1.3 | 0.4 | 0.4 | 0.9 | 0.6 | 2.8 | 8.7 | 33.2 | 16.3 |
| 8 | 0.0 | 0.6 | A | 0.4 | 0.5 | 0.1 | 0.2 | 0.6 | 0.9 | 1.1 | 7.4 | 11.3 |
| 9 | 0.0 | 1.1 | T | 0.6 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.8 | 0.3 | 2.8 |
| 10 | 0.3 | 0.3 | A | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 |
| 11 | 0.0 | 0.0 | | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 12 | 0.0 | 0.0 | | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 6-1.12. CPUE-at-age (number/net lift) for harvested and released lake whitefish caught in trap nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | | | | | | |
| 2 | 2.2 | 3.8 | 9.2 | 4.9 | 0.5 | 10.8 | | | | | | |
| 3 | 9.1 | 9.4 | 56.0 | 29.5 | 25.2 | 28.4 | N | N | N | N | N | N |
| 4 | 35.4 | 8.5 | 15.9 | 69.5 | 32.9 | 44.3 | O | O | O | O | O | O |
| 5 | 43.7 | 20.5 | 8.5 | 7.1 | 24.4 | 39.0 | | | | | | |
| 6 | 17.2 | 19.1 | 10.8 | 1.7 | 2.2 | 10.0 | D | D | D | D | D | D |
| 7 | 3.6 | 5.9 | 3.5 | 2.6 | 0.0 | 1.8 | A | A | A | A | A | A |
| 8 | 4.7 | 1.6 | 2.7 | 1.0 | 0.0 | 0.4 | T | T | T | T | T | T |
| 9 | 0.0 | 2.4 | 2.3 | 0.5 | 0.0 | 0.3 | A | A | A | A | A | A |
| 10 | 0.0 | 0.5 | 2.9 | 0.0 | 0.0 | 1.1 | | | | | | |
| 11 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | | | | | | |
| 12 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | | | | | | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |

## YELLOW PERCH

- The final quota available on commercial fishing licences was 31,424 kg. An additional 19,672 kg was held by the Crown (Table 6-1.1).
- Harvest increased 15% to 10,349 kg, 33% of the available quota. This harvest was 20% of the total quota, including Crown held quota (Figure 6-1.10). Most of the harvest (98%) came out of NC03 (Figure 6-1.11).
- Gill net effort decreased 9% to 254 km total for all assessment areas (Figure 6-1.12).
- Area-wide gill net CPUE increased 28% to 41 kg/km (Appendix 1, Table A1-51).
- The harvest was supported mainly by the 1994, 1995, and 1996 year-classes in NC03 (Tables 6-1.13,6-1.14).
- Abundance appeared to increase slightly in 1999 due to the contributions from three year-classes (Tables 6-1.15,6-1.16).
- Overall abundance should not change greatly in 2000 as the moderate year-classes are followed by a strong 1997 year-class (Figure 6-1.15).

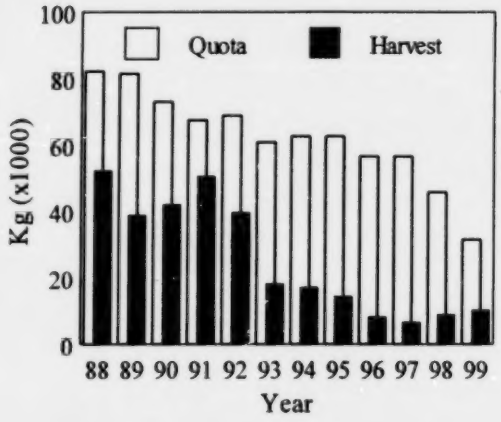



Figure 6-1.10. Yellow perch harvest and quota (kg) for management area 6-1.

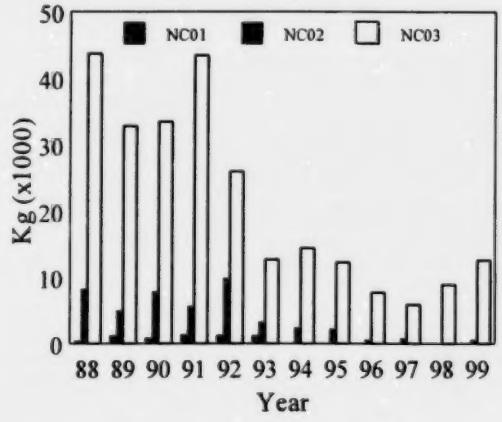



Figure 6-1.11. Yellow perch harvest (kg) by subarea for management area 6-1.

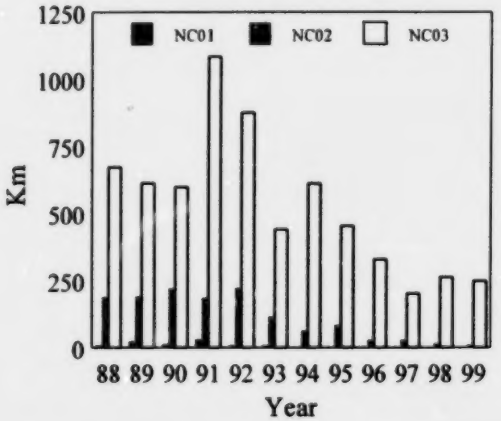



Figure 6-1.12. Yellow perch gill net effort (km) by subarea for management area 6-1.

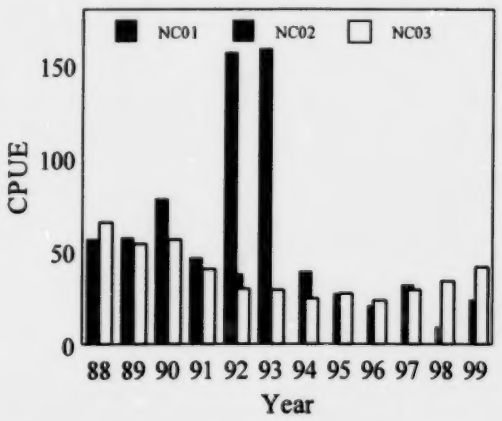



Figure 6-1.13. Yellow perch gill net CPUE (kg/km) by subarea for management area 6-1.

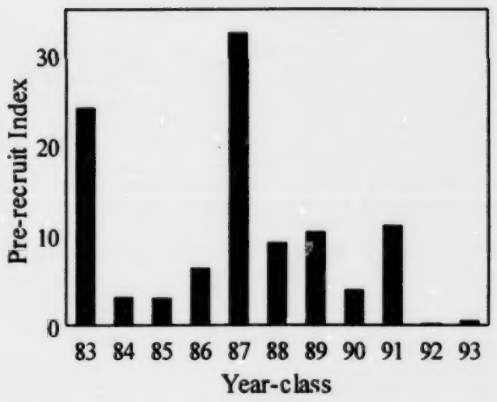



Figure 6-1.14. Indices of year-class strength for yellow perch from index gillnetting in management area 6-1, using multi-filament nets.

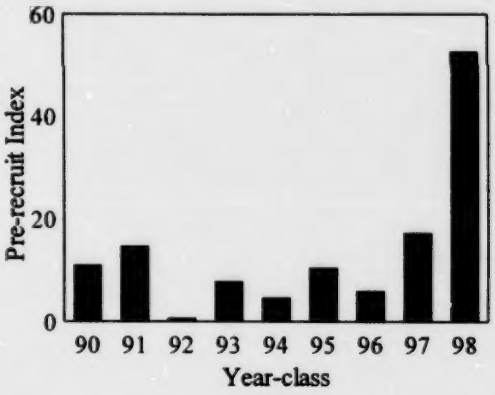



Figure 6-1.15. Indices of year-class strength for yellow perch from index gillnetting in management area 6-1, using monofilament nets.

Table 6-1.13. Estimated number of yellow perch harvested in gill nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 702 | 138 | 51 | 0 | 0 | 769 | 47 | 28 | 3 | 16 | |
| 3 | 0 | 1681 | 4715 | 1336 | 3757 | 211 | 2533 | 2243 | 806 | 178 | 251 | |
| 4 | 1608 | 4005 | 9445 | 12453 | 14740 | 4842 | 1328 | 3413 | 183 | 1090 | 191 | N |
| 5 | 7570 | 9995 | 13771 | 13157 | 31297 | 3496 | 1392 | 1053 | 1181 | 1085 | 94 | O |
| 6 | 16532 | 4955 | 8040 | 3872 | 8784 | 7035 | 1897 | 2634 | 195 | 895 | 21 | |
| 7 | 13163 | 3816 | 2642 | 738 | 1343 | 1257 | 898 | 2274 | 433 | 781 | 7 | D |
| 8 | 887 | 1271 | 2172 | 872 | 431 | 265 | 133 | 934 | 140 | 398 | 1 | A |
| 9 | 733 | 274 | 327 | 288 | 403 | 71 | 33 | 0 | 0 | 163 | 2 | T |
| 10 | 0 | 176 | 107 | 67 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | A |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 12 | 0 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Mean Age | 6.0 | 5.1 | 4.8 | 4.7 | 4.8 | 5.3 | 4.6 | 5.0 | 5.1 | 5.9 | 3.8 | |

Table 6-1.14. Estimated number of yellow perch harvested in gill nets in assessment area NC03 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 903 | 1442 | 0 | 0 | 88 | 438 | 470 | 1747 | 41 | 1207 | 1688 |
| 3 | 4046 | 25477 | 81321 | 17795 | 11176 | 4494 | 17387 | 5059 | 16522 | 3533 | 17385 | 4886 |
| 4 | 28208 | 70650 | 26633 | 202150 | 54531 | 34498 | 21926 | 37680 | 8502 | 17040 | 10916 | 13753 |
| 5 | 69761 | 21365 | 22621 | 19866 | 66174 | 19256 | 26720 | 15381 | 8169 | 4215 | 6108 | 9839 |
| 6 | 30046 | 12609 | 6128 | 4611 | 4143 | 12539 | 16268 | 8354 | 3027 | 3296 | 1547 | 2091 |
| 7 | 7129 | 2822 | 3781 | 1498 | 3415 | 1684 | 3072 | 1678 | 2160 | 1792 | 635 | 381 |
| 8 | 1896 | 433 | 742 | 471 | 666 | 235 | 2294 | 0 | 787 | 1020 | 148 | 0 |
| 9 | 2594 | 282 | 0 | 0 | 460 | 0 | 0 | 0 | 0 | 297 | 191 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 139 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mean Age | 5.2 | 4.3 | 3.8 | 4.1 | 4.5 | 4.6 | 4.6 | 4.5 | 3.9 | 4.3 | 3.8 | 4.3 |

Table 6-1.15. CPUE-at-age (number/km) for yellow perch harvested in gill nets in assessment area NC02 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 2 | 0.0 | 3.7 | 0.6 | 0.3 | 0.0 | 0.0 | 12.5 | 0.6 | 1.1 | 0.1 | 1.1 | |
| 3 | 0.0 | 9.0 | 21.5 | 7.4 | 17.1 | 1.9 | 41.3 | 27.3 | 30.4 | 6.7 | 17.9 | |
| 4 | 8.6 | 21.3 | 43.2 | 68.6 | 67.0 | 42.7 | 21.6 | 41.6 | 6.9 | 41.1 | 13.6 | N |
| 5 | 40.5 | 53.2 | 62.9 | 72.5 | 142.1 | 30.8 | 22.7 | 12.8 | 44.5 | 40.9 | 6.7 | O |
| 6 | 88.4 | 26.4 | 36.7 | 21.3 | 39.9 | 62.0 | 30.9 | 32.1 | 7.4 | 33.7 | 1.5 | |
| 7 | 70.4 | 20.3 | 12.1 | 4.1 | 6.1 | 11.1 | 14.6 | 27.7 | 16.3 | 29.4 | 0.5 | D |
| 8 | 4.7 | 6.8 | 9.9 | 4.8 | 2.0 | 2.3 | 2.17 | 11.4 | 5.3 | 15.0 | 0.1 | A |
| 9 | 3.9 | 1.5 | 1.5 | 1.6 | 1.8 | 0.6 | 0.5 | 0.0 | 0.0 | 6.1 | 0.1 | T |
| 10 | 0.0 | 0.9 | 0.5 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | A |
| 11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 12 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

Table 6-1.16. CPUE-at-age (number/km) for yellow perch harvested in gill nets in assessment area NC03 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 1.7 | 2.9 | 0.0 | 0.0 | 0.2 | 0.7 | 1.0 | 5.3 | 0.2 | 4.6 | 10.5 |
| 3 | 6.8 | 47.6 | 162.9 | 16.8 | 12.8 | 10.3 | 28.5 | 11.2 | 50.4 | 17.7 | 66.6 | 30.3 |
| 4 | 47.5 | 132.1 | 53.4 | 190.3 | 62.3 | 78.8 | 36.0 | 83.5 | 25.9 | 85.2 | 41.8 | 85.3 |
| 5 | 117.4 | 39.9 | 45.3 | 18.7 | 75.6 | 44.0 | 43.8 | 34.1 | 24.9 | 21.1 | 23.4 | 61.0 |
| 6 | 50.6 | 23.6 | 12.3 | 4.3 | 4.7 | 28.6 | 26.7 | 18.5 | 9.2 | 16.5 | 5.9 | 13.0 |
| 7 | 12.0 | 5.3 | 7.6 | 1.4 | 3.9 | 3.8 | 5.0 | 3.7 | 6.6 | 9.0 | 2.4 | 2.4 |
| 8 | 3.2 | 0.8 | 1.5 | 0.4 | 0.8 | 0.5 | 3.8 | 0.0 | 2.4 | 5.1 | 0.6 | 0.0 |
| 9 | 4.4 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 0.7 | 0.0 |
| 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 |
| 11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## WALLEYE

- The final quota available on commercial fishing licences was 9,924 kg. An additional 6,960 kg was held by the Crown (Table 6-1.1).
- Harvest decreased 4% to 5,738 kg, 58% of the available quota. This harvest was 34% of the total quota, including Crown held quota (Figure 6-1.16). Just over half of the harvest occurred in NC01 (Figure 6-1.17).
- Gill net effort decreased 47% to 95 km total over all assessment areas (Figure 6-1.18).
- Gill net CPUE increased in all assessment areas (Figure 6-1.19).
- Abundance appeared to increase slightly in 1999 based upon increasing CPUE.
- The limited effort and data in NC02 and NC03 make predicting abundance difficult.

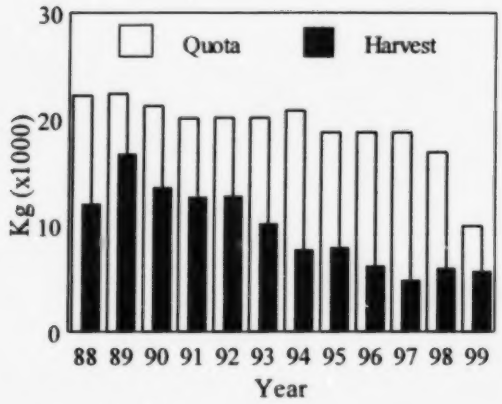



Figure 6-1.16. Walleye quota and harvest (kg) for management area 6-1.

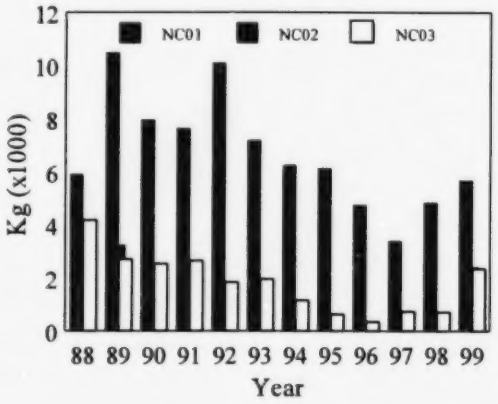



Figure 6-1.17. Walleye harvest (kg) by subarea for management area 6-1.

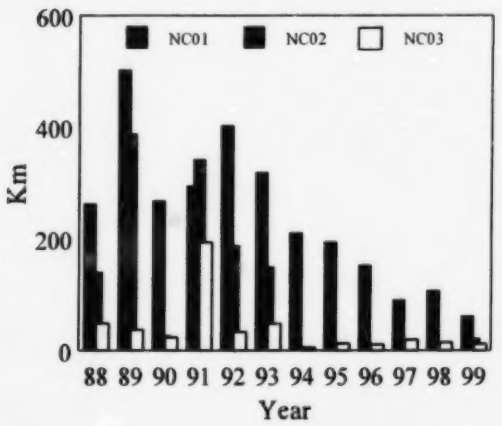



Figure 6-1.18. Walleye annual gill net effort (km) by subarea for management area 6-1.

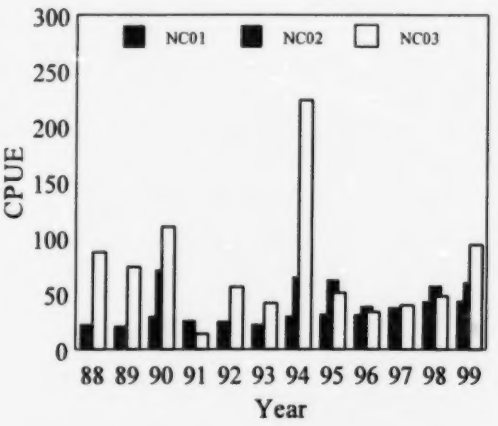



Figure 6-1.19. Walleye gill net CPUE (kg/km) by subarea for management area 6-1.

Table 6-1.17. Estimated number of walleye harvested in gill nets in assessment area NC01 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 94 | 0 | 29 | 0 | | 0 | 0 | 0 | 0 | 30 | 0 | |
| 3 | 0 | 37 | 0 | 307 | | 0 | 33 | 48 | 0 | 12 | 0 | |
| 4 | 436 | 53 | 351 | 632 | N | 490 | 227 | 288 | 102 | 33 | 14 | N |
| 5 | 578 | 1183 | 556 | 602 | O | 2445 | 1396 | 721 | 1229 | 217 | 42 | O |
| 6 | 1607 | 597 | 1552 | 1063 | | 669 | 1915 | 620 | 839 | 380 | 214 | |
| 7 | 891 | 1684 | 351 | 1147 | D | 97 | 194 | 1103 | 348 | 223 | 700 | D |
| 8 | 245 | 1012 | 937 | 97 | A | 130 | 163 | 298 | 471 | 207 | 572 | A |
| 9 | 65 | 520 | 322 | 308 | T | 98 | 98 | 188 | 41 | 315 | 301 | T |
| 10 | 8 | 728 | 176 | 50 | A | 65 | 33 | 158 | 21 | 91 | 243 | A |
| 11 | 125 | 297 | 88 | 134 | | 17 | 0 | 183 | 21 | 76 | 71 | |
| 12 | 27 | 332 | 117 | 87 | | 0 | 33 | 110 | 0 | 79 | 71 | |
| 13 | 6 | 148 | 176 | 43 | | 32 | 0 | 169 | 0 | 49 | 58 | |
| >13 | 15 | 73 | 29 | 43 | | 32 | 0 | 37 | 0 | 82 | 29 | |
| Mean Age | 7.5 | 7.7 | 7.1 | 6.0 | | 5.5 | 5.8 | 7.8 | 6.1 | 8.9 | 8.2 | |

Table 6-1.18. CPUE-at-age of walleye harvested in gill nets in assessment area NC01 (subarea of management area 6-1).

| AGE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 2 | 0.4 | 0.0 | 0.1 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | |
| 3 | 0.0 | 0.1 | 0.0 | 1.1 | | 0.0 | 0.2 | 0.3 | 0.0 | 0.1 | 0.0 | |
| 4 | 1.7 | 0.1 | 1.3 | 2.2 | N | 1.7 | 1.1 | 1.5 | 0.7 | 0.4 | 0.2 | N |
| 5 | 2.2 | 2.4 | 2.1 | 2.1 | O | 8.5 | 6.6 | 3.7 | 8.0 | 2.4 | 0.5 | O |
| 6 | 6.1 | 1.2 | 5.8 | 3.8 | | 2.3 | 9.1 | 3.2 | 5.5 | 4.2 | 2.4 | |
| 7 | 3.4 | 3.4 | 1.3 | 4.1 | D | 0.3 | 0.9 | 5.7 | 2.3 | 2.5 | 7.8 | D |
| 8 | 0.9 | 2.0 | 3.5 | 0.3 | A | 0.5 | 0.8 | 1.5 | 3.1 | 2.3 | 6.4 | A |
| 9 | 0.3 | 1.0 | 1.2 | 1.1 | T | 0.3 | 0.5 | 1.0 | 0.3 | 3.5 | 3.3 | T |
| 10 | 0.1 | 1.5 | 0.7 | 0.2 | A | 0.2 | 0.2 | 0.8 | 0.1 | 1.0 | 2.7 | A |
| 11 | 0.5 | 0.6 | 0.3 | 0.5 | | 0.1 | 0.0 | 0.9 | 0.1 | 0.8 | 0.8 | |
| 12 | 0.1 | 0.7 | 0.4 | 0.3 | | 0.0 | 0.2 | 0.6 | 0.0 | 0.9 | 0.8 | |
| 13 | 0.1 | 0.3 | 0.7 | 0.2 | | 0.1 | 0.0 | 0.9 | 0.0 | 0.5 | 0.6 | |
| >13 | 0.1 | 0.2 | 0.1 | 0.2 | | 0.1 | 0.0 | 0.2 | 0.0 | 0.9 | 0.3 | |

## LAKE TROUT/BACKCROSS

- The total quota available on commercial fishing licences was 6,437 kg. An additional 2,285 kg of quota was held by the Crown. A temporary allowance of 2,950 kg was also available to the commercial fishery. An additional temporary allowance of 1,578 kg was held by the Crown.
- Harvest decreased 17% to 7,978 kg, 123% of the available quota and 85% of the available quota and allowance. Harvest was 91% of the total of available quota plus Crown held quota (Figure 6-1.20).
- Most of the harvest occurred in areas NC02 and NC03 (Figure 6-1.21).
- CPUE in lake whitefish targeted fishing appears to be declining in all assessment areas (Figure 6-1.22).

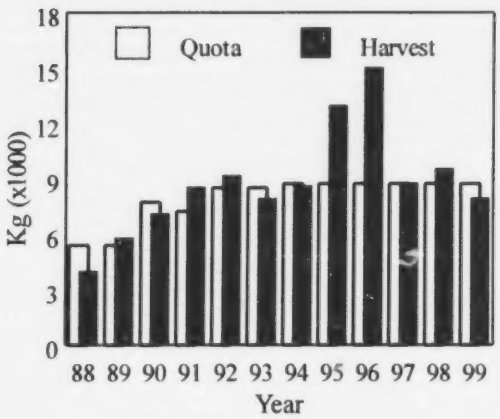



Figure 6-1.20. Lake trout/backcross quota and harvest (kg) for management area 6-1.

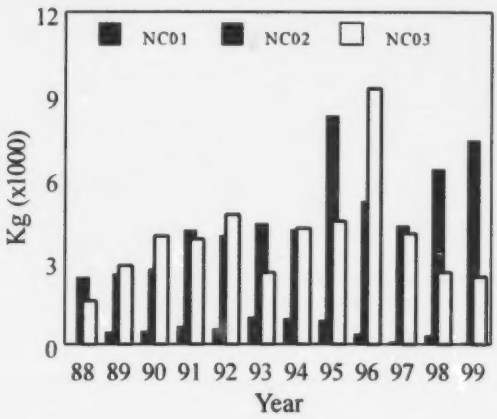



Figure 6-1.21. Lake trout/backcross harvest (kg) by subarea for management area 6-1.

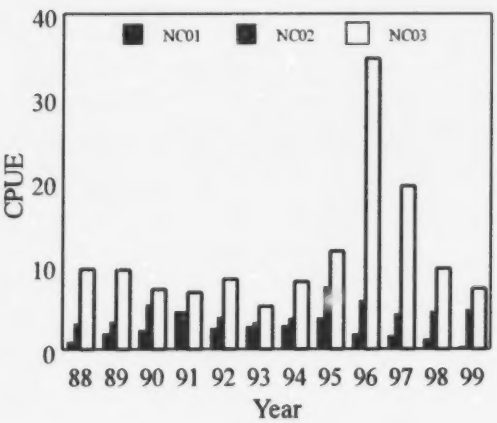



Figure 6-1.22. Lake trout/backcross gill net CPUE (kg/km) for management area 6-1.

**NORTHERN PIKE**

- The final quota available on commercial fishing licences was 8,792 kg (Table 6-1.1). An additional 7,698 kg was held by the Crown. The total of these two amounts was 16,490 kg.
- Harvest increased 9% to 889 kg, 10% of the available quota. Harvest was 5% of the total quota, including Crown held quota (Figure 6-1.23).

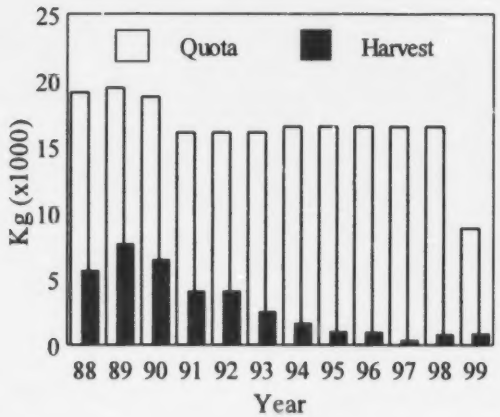



Figure 6-1.23. Northern pike quota and harvest (kg) for management area 6-1.

## MANAGEMENT AREA 6-3

### GENERAL

- Quota issued on commercial fishing licences was 5,776 kg (Table 6-3.1), including a lake trout allowance of 112 kg.
- No harvest of fish species under quota control was reported in 1999.

Table 6-3.1. Quota, harvest, percent quota taken, catch, and estimated value by species for management area 6-3 in 1999.

| Species | Quota (kg) | Harvest (kg) | % Quota Taken | Catch (kg) | Value ($) |
|---|---|---|---|---|---|
| Channel Catfish | 227 | 0 | 0.0 | 0 | 0 |
| Chub | 0 | 0 | 0.0 | 0 | 0 |
| Lake Sturgeon | 0 | 0 | 0.0 | 0 | 0 |
| Lake Trout | 772 | 0 | 0.0 | 0 | 0 |
| Lake Whitefish | 3,818 | 0 | 0.0 | 0 | 0 |
| Northern Pike | 336 | 0 | 0.0 | 0 | 0 |
| Walleye | 0 | 0 | 0.0 | 0 | 0 |
| Yellow Perch | 623 | 0 | 0.0 | 0 | 0 |
| Total | 5,776 | 0 | | 0 | 0 |

## LAKE WHITEFISH

- The quota issued was 3,818 kg.
- There was no reported harvest in 1999.
- Fluctuations in reported harvest and effort preclude using CPUE as a reliable indicator of abundance.

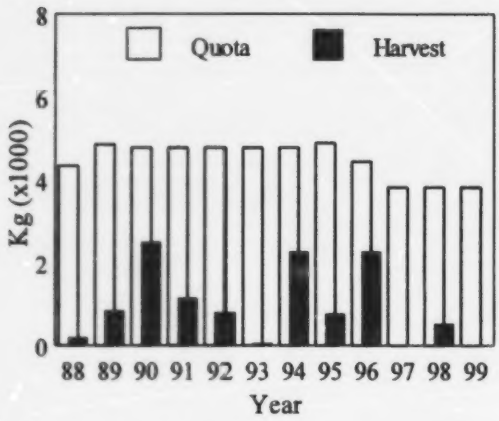



Figure 6-3.1. Lake whitefish quota and harvest (kg) for management area 6-3.

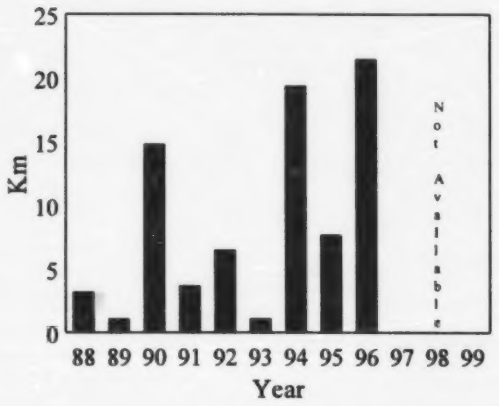



Figure 6-3.2. Lake whitefish gill net effort (km) for management area 6-3.

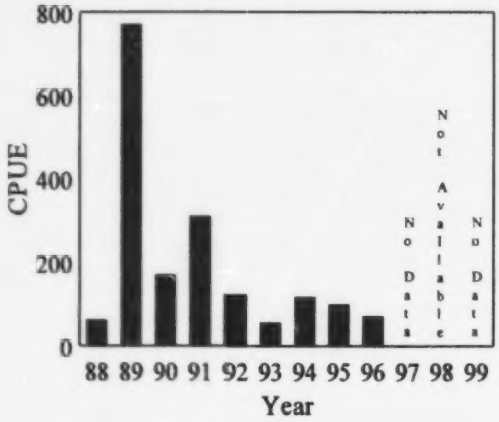



Figure 6-3.3. Lake whitefish gill net CPUE (kg/km) for management area 6-3.

## LAKE TROUT/BACKCROSS

- Total quota issued was 660 kg (Figure 6-3.7). A temporary allowance of 112 kg was also available to the commercial fishery. The total allowable harvest was 772 kg.
- There was no harvest reported in 1999.

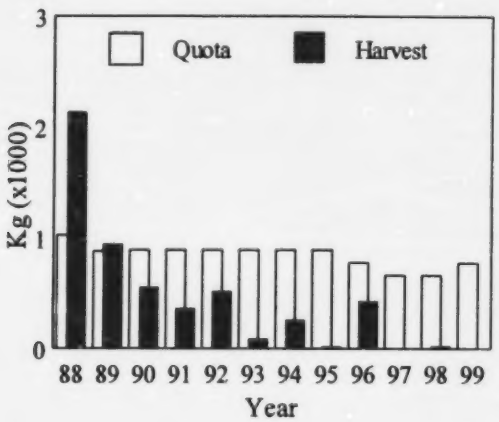



Figure 6-3.4. Lake trout/backcross quota and harvest (kg) for management area 6-3.

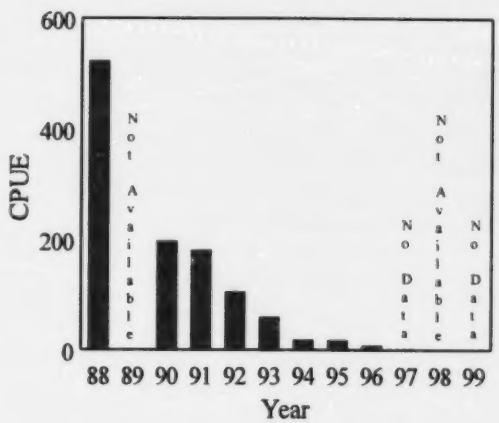



Figure 6-3.5. Lake trout/backcross gill net CPUE (kg/km) for management area 6-3.

## ACKNOWLEDGEMENTS

We thank the many commercial fisheries that provided commercial catch sampling contractors unhindered access to their vessels and catches for the collection of biological data. Without their support, our assessment would be incomplete. We also thank those fishers who have entered into partnership programs aimed at developing recruitment forecasts or have actively sampled catches and recorded information to augment our data collection (see Appendix 4).

It is important to acknowledge the valuable contribution of our commercial catch sampling staff, Scott Austin, Terry Walmsely, Larry Wickett, and Mark Witty. Their efforts are greatly appreciated. Finally, we wish to recognize the many contributions of the Lake Huron Management Unit and Lake Huron Research Unit staff. Jim Hastie coordinated field operations and administered the commercial catch sampling contracts. Ed deLaplante, Wally Illman, Tim Riordan, John Brookham, and others carried out index fishing operations. Wally Illman and John Brookham made thousands of fish age determinations. Harry Taylor managed and summarized the commercial fish harvest and catch sample data. Sylvia Mannonen ably completed the onerous task of data entry and word processing to finish this report. To all, thank you.

## APPENDIX 1

Table A1.1. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-1.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 64974 | N/A | N/A | 485.1 | 113.8 |
| 1984 | 45918 | 65217 | 70.4 | 661.2 | 61.6 |
| 1985 | 39934 | 65217 | 61.2 | 694.6 | 57.5 |
| 1986 | 47259 | 65217 | 72.5 | 678.3 | 69.7 |
| 1987 | 59484 | 75172 | 79.1 | 664.1 | 92.8 |
| 1988 | 48566 | 71932 | 67.5 | 638.4 | 76.1 |
| 1989 | 31470 | 71932 | 43.7 | 485.3 | 64.8 |
| 1990 | 28356 | 71932 | 39.4 | 388.6 | 73.0 |
| 1991 | 13342 | 71932 | 18.5 | 251.8 | 53.0 |
| 1992 | 28999 | 64750 | 44.8 | 356.4 | 81.4 |
| 1993 | 38558 | 64739 | 59.6 | 511.2 | 75.4 |
| 1994 | 63786 | 64739 | 98.5 | 565.0 | 112.9 |
| 1995 | 71226 | 71213 | 100.0 | 488.4 | 145.8 |
| 1996 | 78534 | 78355 | 99.1 | 453.5 | 173.2 |
| 1997 | 87265 | 86168 | 101.3 | 625.0 | 139.6 |
| 1998 | 93324 | 94785 | 98.5 | 697.6 | 133.8 |
| 1999 | 94640 | 94785 | 99.8 | 610.4 | 155.0 |

Table A1.2. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-1.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 2722 | N/A | N/A | 35.4 | 49.0 |
| 1984 | 10106 | 15713 | 64.3 | 172.8 | 48.6 |
| 1985 | 15756 | 18070 | 87.2 | 232.2 | 67.9 |
| 1986 | 17115 | 18643 | 91.8 | 296.9 | 57.6 |
| 1987 | 13535 | 18685 | 72.4 | 204.5 | 65.0 |
| 1988 | 16883 | 20549 | 82.2 | 217.0 | 77.8 |
| 1989 | 20414 | 20549 | 99.3 | 263.8 | 77.4 |
| 1990 | 21814 | 22833 | 95.5 | 269.6 | 80.9 |
| 1991 | 3292 | 22833 | 14.4 | 37.2 | 88.5 |
| 1992 | 9262 | 22837 | 40.6 | 125.7 | 73.7 |
| 1993 | 13103 | 22833 | 57.4 | 202.2 | 64.8 |
| 1994 | 19342 | 22833 | 84.7 | 284.0 | 68.1 |
| 1995 | 1917 | 22833 | 8.4 | 43.0 | 44.6 |
| 1996 | 6677 | 22833 | 31.2 | 111.1 | 60.1 |
| 1997 | 10659 | 22833 | 46.8 | 154.9 | 68.8 |
| 1998 | 5543 | 22833 | 24.3 | 75.4 | 73.5 |
| 1999 | 0 | 22833 | 0.0 | 0.0 | -- |

Table A1.3. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-2.

| Year | Targeted Catch (kg) | | | Quota | Percent | Targeted Effort | | CPUE | |
|---|---|---|---|---|---|---|---|---|---|
| | Gill | Trap | Total | (kg) | Taken | Gill (km) | Trap (# of lifts) | Gill (kg/km) | Trap (kg/net lift) |
| 1983 | 75645 | 21047 | 96692 | N/A | N/A | 1003.7 | 231 | 75.4 | 91.1 |
| 1984 | 94753 | 21474 | 116227 | 132910 | 87.4 | 1521.4 | 219 | 62.3 | 98.1 |
| 1985 | 108579 | 20433 | 129012 | 132910 | 97.1 | 1162.8 | 251 | 93.4 | 81.4 |
| 1986 | 115121 | 21983 | 137104 | 132910 | 103.2 | 1426.0 | 249 | 80.7 | 88.3 |
| 1987 | 91570 | 25701 | 117271 | 153190 | 76.6 | 1123.8 | 233 | 81.5 | 110.3 |
| 1988 | 95881 | 48046 | 143927 | 153161 | 94.0 | 974.9 | 268 | 98.3 | 179.3 |
| 1989 | 70375 | 24064 | 94439 | 153161 | 61.7 | 937.5 | 228 | 75.1 | 105.5 |
| 1990 | 42698 | 18480 | 61178 | 153161 | 39.9 | 678.1 | 203 | 63.0 | 91.0 |
| 1991 | 63597 | 24704 | 88301 | 153161 | 57.7 | 976.9 | 202 | 65.1 | 122.3 |
| 1992 | 57999 | 19339 | 77338 | 153187 | 50.5 | 942.0 | 177 | 61.6 | 109.3 |
| 1993 | 33987 | 17554 | 51541 | 153161 | 33.7 | 676.7 | 141 | 50.2 | 124.5 |
| 1994 | 109580 | 8603 | 118183 | 153161 | 77.2 | 1203.4 | 76 | 91.0 | 113.2 |
| 1995 | 130930 | 36504 | 167434 | 168477 | 99.4 | 893.3 | 138 | 146.6 | 264.5 |
| 1996 | 136899 | 48968 | 185867 | 185325 | 99.8 | 857.3 | 113 | 159.7 | 433.3 |
| 1997 | 148895 | 58890 | 207785 | 203858 | 101.9 | 837.3 | 146 | 177.8 | 403.4 |
| 1998 | 151554 | 70807 | 222361 | 224243 | 99.2 | 901.1 | 187 | 168.2 | 378.6 |
| 1999 | 149724 | 79219 | 228943 | 224243 | 102.1 | 815.2 | 170 | 183.7 | 466.0 |

Table A1.4. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-2.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 33180 | N/A | N/A | 437.0 | 66.1 | |
| 1984 | 42418 | 35584 | 119.2 | 537.0 | 77.8 | |
| 1985 | 35619 | 40922 | 87.0 | 507.8 | 69.6 | |
| 1986 | 35433 | 35584 | 99.6 | 458.5 | 76.1 | 2.8 |
| 1987 | 31237 | 35665 | 87.6 | 466.6 | 59.2 | 1.1 |
| 1988 | 38988 | 39224 | 99.4 | 544.0 | 71.7 | 0.6 |
| 1989 | 39142 | 39224 | 99.8 | 431.1 | 90.8 | 1.5 |
| 1990 | 43129 | 43582 | 99.0 | 317.1 | 136.0 | 5.2 |
| 1991 | 40771 | 43582 | 93.6 | 426.0 | 95.7 | 9.8 |
| 1992 | 40845 | 43589 | 93.7 | 521.1 | 78.4 | 10.5 |
| 1993 | 39616 | 43582 | 90.9 | 668.6 | 59.3 | 10.2 |
| 1994 | 43463 | 43582 | 99.7 | 642.0 | 67.7 | 9.7 |
| 1995 | 23803 | 43582 | 54.6 | 434.5 | 54.8 | 11.7 |
| 1996 | 22428 | 43582 | 50.9 | 352.7 | 63.6 | 25.6 |
| 1997 | 43126 | 43582 | 99.0 | 771.1 | 55.9 | 11.2 |
| 1998 | 38584 | 43582 | 88.5 | 531.7 | 72.6 | 49.8 |
| 1999 | 4069 | 43582 | 9.3 | 150.9 | 27.0 | 22.1 |

Table A1.5. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-3.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 45128 | N/A | N/A | 366.0 | 112.5 |
| 1984 | 36678 | 79520 | 46.1 | 355.3 | 102.3 |
| 1985 | 51611 | 79520 | 64.9 | 592.9 | 97.8 |
| 1986 | 38839 | 79518 | 48.8 | 439.4 | 88.8 |
| 1987 | 41467 | 114478 | 36.2 | 411.8 | 103.7 |
| 1988 | 69197 | 99768 | 69.4 | 805.1 | 85.9 |
| 1989 | 64713 | 98194 | 65.9 | 831.7 | 77.8 |
| 1990 | 69483 | 88263 | 78.7 | 953.0 | 71.4 |
| 1991 | 105934 | 108377 | 97.7 | 1099.0 | 96.4 |
| 1992 | 103094 | 119234 | 86.5 | 988.7 | 104.3 |
| 1993 | 95073 | 119214 | 79.7 | 1058.0 | 89.9 |
| 1994 | 123280 | 119214 | 103.4 | 1053.8 | 117.0 |
| 1995 | 122467 | 119214 | 102.7 | 902.8 | 135.7 |
| 1996 | 128391 | 131137 | 97.9 | 955.5 | 134.4 |
| 1997 | 130850 | 120611 | 108.5 | 956.6 | 136.8 |
| 1998 | 116632 | 126190 | 92.4 | 792.6 | 147.2 |
| 1999 | 116226 | 126190 | 92.1 | 720.1 | 161.4 |

Table A1.6. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-3.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 3482 | N/A | N/A | 32.9 | 65.7 | |
| 1984 | 30318 | 41640 | 72.8 | 274.8 | 109.4 | |
| 1985 | 39184 | 41640 | 94.1 | 478.9 | 83.1 | |
| 1986 | 34155 | 57603 | 59.3 | 536.8 | 64.0 | 3.8 |
| 1987 | 58471 | 59222 | 98.7 | 862.2 | 71.6 | 2.1 |
| 1988 | 47122 | 59371 | 79.4 | 662.5 | 71.1 | 3.4 |
| 1989 | 52317 | 59371 | 88.1 | 586.9 | 89.1 | 4.1 |
| 1990 | 45152 | 65751 | 68.7 | 429.0 | 105.2 | 14.6 |
| 1991 | 33334 | 65751 | 50.7 | 421.8 | 79.0 | 10.6 |
| 1992 | 26429 | 65763 | 40.2 | 292.7 | 90.3 | 18.7 |
| 1993 | 48127 | 65751 | 73.2 | 586.6 | 82.0 | 9.6 |
| 1994 | 63512 | 65751 | 96.6 | 750.4 | 84.6 | 15.4 |
| 1995 | 46390 | 65751 | 70.6 | 641.9 | 72.3 | 27.7 |
| 1996 | 40048 | 65751 | 60.9 | 714.5 | 56.1 | 17.7 |
| 1997 | 46865 | 59177 | 79.2 | 508.1 | 92.2 | 35.1 |
| 1998 | 36747 | 36727 | 100.1 | 310.9 | 118.2 | 95.9 |
| 1999 | 36067 | 36727 | 98.2 | 816.1 | 44.2 | 26.7 |

Table A1.7. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-4.

| Year | Targeted Catch (kg) | | | | Quota | Percent | Targeted Gill Effort (km) | | | | CPUE (kg/km) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LH05 | LH06 | LH07 | Total | (kg) | Taken | LH05 | LH06 | LH07 | Total | LH05 | LH06 | LH07 |
| 1983 | 199122 | 588 | | 199710 | N/A | N/A | 1427.2 | 8.4 | | 1435.6 | 137.3 | 70.0 | |
| 1984 | 256189 | 944 | | 257133 | 273339 | 94.1 | 1349.7 | 13.0 | | 1362.7 | 189.8 | 72.3 | |
| 1985 | 312497 | 508 | | 313005 | 273339 | 114.5 | 1053.5 | 0.9 | | 1054.4 | 287.0 | 356.7 | |
| 1986 | 241737 | 2 | | 241739 | 284321 | 85.0 | 992.0 | 0.0 | | 992.0 | 236.3 | -- | |
| 1987 | 343893 | 0 | | 343893 | 327557 | 105.0 | 1456.4 | 0.0 | | 1456.4 | 236.1 | -- | |
| 1988 | 261822 | 26758 | | 288580 | 327495 | 88.1 | 1029.0 | 165.7 | | 1194.7 | 254.4 | 161.5 | |
| 1989 | 283154 | 36672 | | 319826 | 327495 | 97.7 | 1210.0 | 145.7 | | 1355.7 | 233.8 | 251.7 | |
| 1990 | 332223 | 31589 | | 363812 | 360244 | 101.0 | 1151.9 | 106.1 | | 1258.0 | 288.4 | 297.7 | |
| 1991 | 381527 | 42643 | | 424170 | 432293 | 98.1 | 1061.6 | 136.0 | | 1197.6 | 359.4 | 313.5 | |
| 1992 | 402214 | 28053 | | 430267 | 435968 | 98.7 | 1089.4 | 59.1 | | 1148.5 | 369.2 | 474.7 | |
| 1993 | 387988 | 68308 | | 456296 | 458208 | 99.6 | 1125.8 | 170.2 | | 1296.0 | 344.9 | 401.3 | |
| 1994 | 206012 | 148874 | | 354886 | 359923 | 98.6 | 533.9 | 300.8 | | 834.7 | 385.9 | 494.9 | |
| 1995 | 47314 | 110712 | | 158026 | 162188 | 97.4 | 194.7 | 323.1 | | 517.8 | 243.0 | 342.7 | |
| 1996 | na | 816 | 1814 | 2630 | 217457 | 1.2 | 0.0 | 6.9 | 3.7 | 10.6 | na | 118.3 | 490.3 |
| 1997 | na | 2799 | 0 | na | 385845 | na | na | 7.8 | 0.0 | na | na | 358.8 | -- |
| 1998 | na | na | na | na | 385845 | na | na | na | na | na | na | na | na |
| 1999 | 9715 | 1287 | 428 | 11430 | 385845 | 3.0 | 11.7 | 7.2 | 2.3 | 21.2 | 830.0 | 178.2 | 187.1 |

Table A1.8. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-4.

| Year | Targeted Catch (kg) | | | | Quota | Percent | Targeted Gill Effort (km) | | | | CPUE (kg/km) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LH05 | LH06 | LH07 | Total | (kg) | Taken | LH05 | LH06 | LH07 | Total | LH05 | LH06 Catch | LH07 | 4-4 Discards |
| 1983 | 68080 | 58171 | 59708 | 185959 | N/A | N/A | 631.1 | 667.1 | 549.2 | 1847.4 | 93.1 | 87.2 | 108.7 | |
| 1984 | 73681 | 100951 | 64455 | 239087 | 275778 | 86.7 | 761.4 | 918.1 | 494.3 | 2173.8 | 86.2 | 109.8 | 130.4 | |
| 1985 | 23809 | 60298 | 58663 | 142770 | 317146 | 45.0 | 241.0 | 696.1 | 543.1 | 1480.2 | 98.8 | 86.6 | 108.0 | |
| 1986 | 39405 | 25966 | 56513 | 121884 | 277781 | 43.9 | 521.7 | 546.1 | 530.1 | 1597.9 | 75.5 | 47.5 | 106.6 | 1.5 |
| 1987 | 66119 | 15011 | 2662 | 83792 | 276398 | 30.3 | 763.9 | 268.8 | 27.6 | 1060.3 | 86.5 | 55.8 | 96.4 | 4.7 |
| 1988 | 90161 | 62350 | 51529 | 204040 | 234896 | 86.9 | 810.1 | 734.9 | 658.5 | 2203.5 | 111.3 | 84.8 | 78.3 | 22.1 |
| 1989 | 94352 | 45127 | 0 | 139479 | 234896 | 59.4 | 681.6 | 337.4 | 0.0 | 1019.0 | 138.4 | 133.7 | --- | 7.2 |
| 1990 | 79294 | 55703 | 51229 | 186226 | 257211 | 72.4 | 480.5 | 308.2 | 150.0 | 938.6 | 165.0 | 180.8 | 341.6 | 17.8 |
| 1991 | 64627 | 76960 | 51894 | 193481 | 258385 | 74.9 | 423.2 | 531.5 | 364.0 | 1318.7 | 152.7 | 144.8 | 142.6 | 30.5 |
| 1992 | 51294 | 86289 | 18947 | 156530 | 258530 | 60.5 | 328.3 | 563.1 | 84.1 | 988.8 | 156.2 | 153.2 | 225.3 | 47.9 |
| 1993 | 69832 | 101143 | 4445 | 175420 | 258173 | 67.9 | 393.1 | 628.6 | 21.0 | 1042.7 | 177.7 | 160.9 | 211.7 | 31.4 |
| 1994 | 45503 | 84299 | 8512 | 138014 | 185347 | 74.5 | 481.8 | 385.1 | 35.7 | 902.6 | 94.4 | 218.9 | 230.0 | 29.4 |
| 1995 | 36908 | 52409 | 7253 | 96570 | 199406 | 48.4 | 291.8 | 508.9 | 45.7 | 846.4 | 126.5 | 103.0 | 158.7 | 28.5 |
| 1996 | 1427 | 29515 | 0 | 30942 | 176254 | 17.6 | 11.0 | 237.5 | 0.0 | 248.5 | 129.7 | 124.3 | --- | 17.1 |
| 1997 | na | 12911 | 0 | na | 258173 | na | na | 70.9 | 0.0 | na | na | 182.1 | --- | --- |
| 1998 | na | na | na | na | 258173 | na | na | na | na | na | na | na | na | na |
| 1999 | na | 1539 | 261 | 1800 | 258173 | 0.7 | na | 15.5 | 0.9 | 16.4 | na | 99.3 | 290.0 | na |

Table A1.9. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 4-4.

| Year | Targeted Catch (kg) | | | Quota | Percent | Targeted Gill Effort (km) | | | CPUE (kg/km) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LH05 | LH06 | Total | (kg) | Taken | LH05 | LH06 | Total | LH05 | LH06 |
| 1983 | 34380 | 7255 | 41635 | N/A | N/A | 469.7 | 112.9 | 582.6 | 57.9 | 65.3 |
| 1984 | 4868 | 3517 | 8385 | 10161 | 82.5 | 123.3 | 93.3 | 216.6 | 36.9 | 39.2 |
| 1985 | 5047 | 1723 | 6770 | 10161 | 66.6 | 81.1 | 15.9 | 97.0 | 55.1 | 108.4 |
| 1986 | 3749 | 4474 | 8223 | 10161 | 80.9 | 66.3 | 56.1 | 122.4 | 55.9 | 79.8 |
| 1987 | 13619 | 1302 | 14921 | 20362 | 73.3 | 170.5 | 32.1 | 202.6 | 74.6 | 40.6 |
| 1988 | 3372 | 2888 | 6260 | 20362 | 33.4 | 141.1 | 79.2 | 220.3 | 22.5 | 36.5 |
| 1989 | 6888 | 3854 | 10742 | 18327 | 58.6 | 219.2 | 39.6 | 258.8 | 27.8 | 97.3 |
| 1990 | 10567 | 1691 | 12258 | 18327 | 66.9 | 277.2 | 16.3 | 293.5 | 38.1 | 103.9 |
| 1991 | 13004 | 420 | 13424 | 18253 | 73.5 | 346.7 | 21.0 | 367.7 | 36.4 | 19.6 |
| 1992 | 5818 | 850 | 6668 | 18255 | 36.5 | 158.0 | 42.5 | 200.5 | 36.8 | 20.0 |
| 1993 | 1478 | 691 | 2169 | 16492 | 13.2 | 58.8 | 31.7 | 90.5 | 25.1 | 21.8 |
| 1994 | 1155 | 1222 | 2377 | 7877 | 30.2 | 54.0 | 11.2 | 65.2 | 21.4 | 109.1 |
| 1995 | 0 | 0 | 0 | 6301 | 0.0 | 0.0 | 1.5 | 1.5 | -- | -- |
| 1996 | 0 | 331 | 331 | 9387 | 3.5 | 0.0 | 4.6 | 4.6 | -- | 72.0 |
| 1997 | 0 | 0 | 0 | 10687 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| 1998 | 0 | 0 | 0 | 9164 | 0.0 | na | na | na | -- | -- |
| 1999 | na | na | na | 9372 | 0.0 | na | na | na | -- | -- |

Table A1.10. Lake trout/backcross harvest and quota for management area 4-4.

| Year | Harvest (kg) | | | | Quota | Percent |
|---|---|---|---|---|---|---|
| | LH05 | LH06 | LH07 | Total | (kg) | Taken |
| 1983 | 684 | 589 | | 1273 | N/A | N/A |
| 1984 | 1287 | 22 | | 1309 | 950 | 137.8 |
| 1985 | 262 | 106 | | 368 | 950 | 38.7 |
| 1986 | 109 | 0 | | 109 | 1583 | 6.9 |
| 1987 | 107 | 0 | | 107 | 1593 | 6.7 |
| 1988 | 191 | 0 | | 191 | 1593 | 12.0 |
| 1989 | 899 | 2 | | 901 | 1582 | 57.0 |
| 1990 | 1592 | 12 | | 1625 | 1582 | 102.7 |
| 1991 | 1882 | 124 | | 2006 | 1582 | 126.8 |
| 1992 | 1485 | 79 | | 1564 | 1999 | 78.2 |
| 1993 | 2394 | 1586 | | 3980 | 2006 | 198.4 |
| 1994 | 3205 | 4564 | | 7769 | 2006 | 387.3 |
| 1995 | 1061 | 9484 | | 10545 | 2006 | 525.7 |
| 1996 | 6 | 151 | 227 | 384 | 1625 | 23.6 |
| 1997 | 15093 | 113 | 0 | 15206 | 2006 | 758.0 |
| 1998 | na | na | na | 8478 | 2006 | 422.6 |
| 1999 | na | na | na | 15217 | 2006 | 758.6 |

Table A1.11. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-5.

| Year | Targeted Catch (kg) | | | Quota | Percent | Targeted Effort (km) | | CPUE | |
|---|---|---|---|---|---|---|---|---|---|
| | Gill | Trap | Total | (kg) | Taken | Gill (km) | Trap (# of nets) | Gill (kg/km) | Trap (kg/net) |
| 1983 | 701812 | 90874 | 792686 | N/A | N/A | 4808.3 | 985 | 146.0 | 92.3 |
| 1984 | 473853 | 40795 | 514648 | 575068 | 89.4 | 4260.5 | 454 | 111.2 | 89.9 |
| 1985 | 537770 | 60800 | 598570 | 575068 | 104.1 | 2655.3 | 464 | 202.5 | 131.0 |
| 1986 | 514792 | 56593 | 571385 | 567358 | 100.7 | 2454.3 | 800 | 209.7 | 70.7 |
| 1987 | 531662 | 33265 | 564427 | 567806 | 99.4 | 2774.4 | 1010 | 191.6 | 32.9 |
| 1988 | 538241 | 24352 | 562593 | 567722 | 99.1 | 3060.7 | 626 | 175.9 | 38.9 |
| 1989 | 516942 | 36427 | 553369 | 578683 | 95.6 | 2310.5 | 873 | 223.7 | 41.7 |
| 1990 | 586046 | 18749 | 604795 | 625697 | 96.7 | 2055.3 | 148 | 285.1 | 126.7 |
| 1991 | 687471 | 35485 | 722956 | 753515 | 95.9 | 2850.5 | 772 | 241.2 | 46.0 |
| 1992 | 772641 | 32473 | 805114 | 790824 | 101.8 | 2646.2 | 904 | 292.0 | 35.9 |
| 1993 | 739150 | 132183 | 871333 | 906882 | 96.1 | 2476.4 | 983 | 298.5 | 134.5 |
| 1994 | 638963 | 108566 | 747529 | 906885 | 82.2 | 1883.9 | 195 | 339.2 | 556.7 |
| 1995 | 799910 | 72738 | 872648 | 906885 | 96.2 | 2634.9 | 111 | 303.6 | 655.3 |
| 1996 | 893894 | 88644 | 982538 | 997575 | 98.5 | 2467.0 | 93 | 362.3 | 953.2 |
| 1997 | 970135 | 94449 | 1064584 | 1097331 | 97.9 | 2554.4 | 123 | 379.8 | 767.9 |
| 1998 | 1094894 | 48299 | 1143193 | 1207067 | 94.7 | 2932.1 | 65 | 373.4 | 743.1 |
| 1999 | 1080540 | 69279 | 1149819 | 1207067 | 95.3 | 3135.4 | 106 | 344.6 | 653.6 |

Table A1.12. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-5.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) | |
|---|---|---|---|---|---|---|
| | | | | | Catch | Discards |
| 1983 | 54482 | N/A | N/A | 721.2 | 75.5 | |
| 1984 | 161434 | 174608 | 92.5 | 2062.4 | 78.3 | |
| 1985 | 161753 | 200799 | 80.6 | 3833.0 | 42.2 | |
| 1986 | 97368 | 174637 | 55.8 | 1015.3 | 95.9 | 12.0 |
| 1987 | 47686 | 174855 | 27.3 | 830.9 | 57.4 | 6.2 |
| 1988 | 96898 | 158856 | 61.0 | 1385.5 | 69.9 | 4.6 |
| 1989 | 18709 | 169291 | 11.1 | 168.9 | 110.8 | 48.0 |
| 1990 | 31721 | 151161 | 21.0 | 188.6 | 168.2 | 93.4 |
| 1991 | 20110 | 153251 | 13.1 | 170.2 | 118.2 | 15.6 |
| 1992 | 30964 | 154758 | 20.0 | 238.1 | 130.0 | 83.7 |
| 1993 | 36327 | 151722 | 23.9 | 193.3 | 187.9 | 30.4 |
| 1994 | 27408 | 151722 | 18.1 | 256.8 | 106.7 | 20.8 |
| 1995 | 28040 | 151722 | 18.5 | 155.4 | 180.4 | 32.3 |
| 1996 | 29716 | 151722 | 19.6 | 143.6 | 206.9 | 35.4 |
| 1997 | 58792 | 151722 | 39.4 | 414.1 | 142.0 | 43.0 |
| 1998 | 1758 | 136549 | 1.3 | 21.9 | 80.4 | 95.2 |
| 1999 | 8899 | 136549 | 6.5 | 53.5 | 166.3 | 0.0 |

Table A1.13. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 4-5.

| Year | Targeted Catch (kg) | | | Quota | Percent | Targeted Effort (km) | | CPUE | |
|---|---|---|---|---|---|---|---|---|---|
| | Gill | Trap | Total | (kg) | Taken | Gill (km) | Trap (# of net lifts) | Gill (kg/km) | Trap (kg/net lift) |
| 1983 | 99115 | 10789 | 109904 | N/A | N/A | 2880.9 | 2729 | 34.4 | 4.0 |
| 1984 | 198785 | 7566 | 206351 | 249353 | 82.8 | 3832.0 | 2139 | 51.9 | 3.5 |
| 1985 | 214888 | 13264 | 228152 | 249353 | 91.5 | 4976.8 | 2162 | 43.2 | 6.1 |
| 1986 | 233977 | 10529 | 244506 | 249353 | 98.1 | 3850.8 | 1785 | 60.8 | 5.9 |
| 1987 | 189704 | 11127 | 200831 | 313275 | 64.1 | 3239.8 | 2388 | 58.6 | 4.7 |
| 1988 | 154136 | 3814 | 157950 | 272522 | 58.0 | 2930.9 | 1505 | 52.6 | 2.5 |
| 1989 | 231414 | 8148 | 239562 | 279834 | 85.6 | 3509.1 | 1827 | 65.9 | 4.5 |
| 1990 | 180063 | 4239 | 184302 | 264894 | 69.6 | 3026.0 | 2294 | 59.5 | 1.8 |
| 1991 | 209190 | 13277 | 222467 | 281996 | 78.9 | 4306.5 | 1998 | 48.6 | 6.6 |
| 1992 | 108740 | 5718 | 114458 | 289540 | 39.5 | 3079.5 | 1776 | 35.3 | 3.2 |
| 1993 | 71598 | 2653 | 74251 | 289027 | 25.7 | 1616.9 | 1695 | 44.3 | 1.6 |
| 1994 | 110643 | 1832 | 110643 | 289027 | 38.3 | 2456.5 | 67 | 44.3 | 27.3 |
| 1995 | 50345 | 1076 | 51421 | 231233 | 22.2 | 1526.2 | 90 | 33.0 | 12.0 |
| 1996 | 60688 | 2454 | 63142 | 208113 | 30.3 | 1194.0 | 196 | 50.8 | 12.5 |
| 1997 | 75624 | 2444 | 78068 | 187307 | 43.1 | 1690.5 | 147 | 44.7 | 16.6 |
| 1998 | 106350 | 10901 | 117251 | 144794 | 81.0 | 2112.1 | 360 | 50.4 | 30.3 |
| 1999 | 105994 | 2864 | 108858 | 144794 | 75.2 | 2288.4 | 198 | 46.3 | 14.5 |

Table A1.14. Walleye catch from targeted effort, quota, targeted effort, and CPUE for management area 4-5.

| Year | Targeted Catch (kg) | | | Quota | Percent | Targeted Effort | | CPUE | |
|---|---|---|---|---|---|---|---|---|---|
| | Gill | Trap | Total | (kg) | Taken | Gill (km) | Trap (# of net lifts) | Gill (kg/km) | Trap (kg/net lift) |
| 1983 | 27095 | 93930 | 121025 | N/A | N/A | 1195.9 | 2905 | 22.7 | 32.3 |
| 1984 | 21757 | 107277 | 129034 | 125355 | 102.9 | 1170.8 | 3300 | 18.6 | 32.5 |
| 1985 | 17154 | 102446 | 119600 | 125355 | 95.4 | 512.1 | 2163 | 33.5 | 47.4 |
| 1986 | 10320 | 112503 | 122823 | 125355 | 98.0 | 782.6 | 2330 | 13.2 | 48.3 |
| 1987 | 13607 | 123201 | 136808 | 137414 | 99.6 | 901.6 | 2453 | 15.1 | 50.2 |
| 1988 | 12707 | 126152 | 138859 | 137891 | 100.7 | 806.1 | 1794 | 15.8 | 70.3 |
| 1989 | 8625 | 102383 | 111008 | 137910 | 80.5 | 566.6 | 2032 | 15.2 | 50.4 |
| 1990 | 9447 | 119968 | 129415 | 138504 | 93.4 | 42.0 | 2017 | 224.9 | 59.5 |
| 1991 | 10854 | 112162 | 123016 | 125043 | 98.4 | 802.7 | 2346 | 13.5 | 47.8 |
| 1992 | 10957 | 101769 | 110223 | 124687 | 90.4 | 479.5 | 2158 | 22.9 | 47.2 |
| 1993 | 47496 | 87358 | 134854 | 137433 | 98.1 | 428.8 | 2015 | 110.8 | 43.4 |
| 1994 | 45349 | 85641 | 130990 | 137433 | 95.3 | 378.1 | 1428 | 119.9 | 60.0 |
| 1995 | 40597 | 48907 | 89504 | 137433 | 65.1 | 665.6 | 1573 | 61.0 | 31.1 |
| 1996 | 16899 | 44079 | 60978 | 123697 | 49.3 | 177.0 | 1340 | 95.5 | 32.9 |
| 1997 | 8423 | 81701 | 90124 | 123697 | 76.6 | 70.9 | 1917 | 118.9 | 42.6 |
| 1998 | 9656 | 72961 | 82617 | 123697 | 66.8 | 86.5 | 1690 | 111.6 | 43.2 |
| 1999 | 12450 | 63896 | 76346 | 123697 | 61.7 | 114.7 | 1348 | 108.6 | 47.4 |

Table A1.15. Lake trout/backcross harvest and quota for management area 4-5.

| Year | Harvest (kg) | | | Quota | Percent |
|---|---|---|---|---|---|
| | Gill | Trap | Total | (kg) | Taken |
| 1983 | 49371 | 5127 | 54498 | N/A | N/A |
| 1984 | 21431 | 5686 | 27117 | 37234 | 72.8 |
| 1985 | 19023 | 1212 | 20235 | 37209 | 54.4 |
| 1986 | 28718 | 1006 | 29724 | 37211 | 79.9 |
| 1987 | 26766 | 3063 | 29829 | 37240 | 80.1 |
| 1988 | 16701 | 1255 | 17956 | 37240 | 48.2 |
| 1989 | 14012 | 1122 | 15134 | 34062 | 44.4 |
| 1990 | 10523 | 1462 | 11985 | 36908 | 32.5 |
| 1991 | 14172 | 564 | 14736 | 37096 | 39.7 |
| 1992 | 20647 | 708 | 21355 | 36681 | 58.2 |
| 1993 | 9699 | 655 | 10354 | 36674 | 28.2 |
| 1994 | 9751 | 642 | 10393 | 36674 | 28.3 |
| 1995 | 40719 | 713 | 41432 | 36674 | 113.0 |
| 1996 | 49075 | 1624 | 50699 | 36674 | 138.2 |
| 1997 | 43047 | 1784 | 44831 | 36674 | 122.2 |
| 1998 | 31260 | 3537 | 34797 | 36674 | 94.9 |
| 1999 | 42212 | 5663 | 47875 | 36674 | 130.5 |

Table A1.16. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 4-7.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 34788 | N/A | N/A | 410.6 | 78.4 |
| 1984 | 20243 | 76401 | 26.5 | 240.7 | 85.4 |
| 1985 | 48705 | 76401 | 63.7 | 259.1 | 156.1 |
| 1986 | 49133 | 76401 | 64.3 | 274.0 | 175.4 |
| 1987 | 76638 | 74038 | 103.5 | 727.9 | 105.3 |
| 1988 | 36614 | 68816 | 53.2 | 219.0 | 167.2 |
| 1989 | 59893 | 67909 | 88.2 | 312.4 | 191.7 |
| 1990 | 71889 | 73518 | 97.8 | 312.0 | 230.4 |
| 1991 | 86994 | 95084 | 91.5 | 392.7 | 221.5 |
| 1992 | 81909 | 90399 | 90.6 | 402.8 | 203.3 |
| 1993 | 91314 | 95037 | 96.1 | 509.0 | 179.4 |
| 1994 | 58237 | 85514 | 68.1 | 441.1 | 132.0 |
| 1995 | 66673 | 85966 | 77.6 | 706.7 | 94.3 |
| 1996 | 2193 | 40772 | 5.4 | 12.5 | 175.4 |
| 1997 | na | 76980 | na | na | na |
| 1998 | na | 76979 | na | na | na |
| 1999 | na | 76979 | na | na | na |

Table A1.17. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 4-7.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 5457 | N/A | N/A | 116.8 | 45.4 | |
| 1984 | 42954 | 38946 | 110.3 | 556.2 | 78.3 | |
| 1985 | 33275 | 44788 | 74.3 | 435.4 | 67.5 | |
| 1986 | 32145 | 54092 | 59.4 | 394.1 | 81.6 | 9.2 |
| 1987 | 39352 | 53967 | 72.9 | 591.0 | 66.5 | 5.8 |
| 1988 | 41537 | 53764 | 77.3 | 480.9 | 86.4 | 6.4 |
| 1989 | 49596 | 53764 | 92.2 | 512.5 | 96.8 | 10.7 |
| 1990 | 23691 | 55463 | 42.7 | 269.6 | 87.9 | N/A |
| 1991 | 26283 | 59141 | 44.4 | 288.4 | 91.1 | 56.4 |
| 1992 | 29416 | 59151 | 49.7 | 251.8 | 116.8 | 30.7 |
| 1993 | 45711 | 59141 | 77.3 | 470.7 | 97.1 | 32.7 |
| 1994 | 44169 | 52791 | 83.7 | 488.3 | 90.5 | 18.4 |
| 1995 | 53739 | 56873 | 94.5 | 855.1 | 62.8 | 16.6 |
| 1996 | 11099 | 39543 | 28.1 | 169.6 | 65.4 | 8.6 |
| 1997 | na | 53227 | na | na | na | na |
| 1998 | na | 53227 | na | na | na | na |
| 1999 | na | 53227 | na | na | na | na |

Table A1.18. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-1.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 6517 | N/A | N/A | 462.5 | 9.9 |
| 1984 | 9593 | 49037 | 19.6 | 193.7 | 44.8 |
| 1985 | 17974 | 49037 | 36.7 | 363.0 | 49.7 |
| 1986 | 28899 | 49037 | 58.9 | 448.2 | 63.8 |
| 1987 | 11944 | 41836 | 28.5 | 393.8 | 29.8 |
| 1988 | 8717 | 42114 | 20.7 | 594.0 | 14.4 |
| 1989 | 7370 | 35509 | 20.8 | 121.9 | 60.5 |
| 1990 | 7461 | 33722 | 22.1 | 105.1 | 71.0 |
| 1991 | 19056 | 28741 | 66.3 | 357.0 | 53.4 |
| 1992 | 26237 | 35526 | 73.9 | 278.1 | 94.3 |
| 1993 | 31025 | 39075 | 79.4 | 206.7 | 150.1 |
| 1994 | 44521 | 46891 | 94.9 | 581.4 | 76.6 |
| 1995 | 43442 | 47285 | 91.9 | 515.0 | 84.4 |
| 1996 | 58069 | 52014 | 111.6 | 438.4 | 132.5 |
| 1997 | 43886 | 54316 | 80.8 | 406.8 | 107.9 |
| 1998 | 53866 | 59747 | 90.2 | 675.7 | 79.7 |
| 1999 | 67917 | 59747 | 113.7 | 556.2 | 122.1 |

Table A1.19. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-1.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 1464 | N/A | N/A | 60.9 | 21.1 |
| 1984 | 4529 | 18004 | 25.2 | 139.8 | 31.6 |
| 1985 | 4697 | 20704 | 22.7 | 48.1 | 98.3 |
| 1986 | 12490 | 17553 | 71.2 | 285.8 | 44.0 |
| 1987 | 9290 | 17468 | 53.2 | 243.2 | 37.7 |
| 1988 | 6166 | 17599 | 35.0 | 226.1 | 27.3 |
| 1989 | 3799 | 17052 | 22.3 | 14.8 | 256.7 |
| 1990 | 752 | 17052 | 4.4 | 7.3 | 102.8 |
| 1991 | 9094 | 13654 | 66.6 | 144.4 | 63.0 |
| 1992 | 2620 | 17056 | 15.4 | 26.5 | 98.9 |
| 1993 | 4880 | 17052 | 28.6 | 42.5 | 114.7 |
| 1994 | 5704 | 17052 | 33.4 | 165.9 | 34.4 |
| 1995 | 8756 | 17052 | 51.4 | 163.1 | 53.7 |
| 1996 | 2940 | 17052 | 17.2 | 89.8 | 32.7 |
| 1997 | 6452 | 17052 | 41.2 | 160.9 | 40.1 |
| 1998 | 8032 | 17052 | 47.1 | 163.1 | 49.2 |
| 1999 | 2161 | 17052 | 12.7 | 112.7 | 19.2 |

Table A1.20. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 5-1.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 16126 | N/A | N/A | 774.2 | 20.5 |
| 1984 | 14714 | 28783 | 51.1 | 557.0 | 28.4 |
| 1985 | 11601 | 28783 | 40.3 | 227.9 | 50.3 |
| 1986 | 8510 | 30824 | 27.6 | 358.7 | 23.4 |
| 1987 | 6789 | 29788 | 22.8 | 330.6 | 20.4 |
| 1988 | 6994 | 29869 | 23.4 | 571.7 | 12.2 |
| 1989 | 1907 | 25801 | 7.4 | 104.4 | 18.3 |
| 1990 | 1305 | 24983 | 5.2 | 36.1 | 36.1 |
| 1991 | 1427 | 18938 | 7.5 | 63.1 | 22.6 |
| 1992 | 1117 | 25895 | 4.3 | 51.6 | 21.7 |
| 1993 | 104 | 25592 | 0.4 | 2.3 | 45.6 |
| 1994 | 0 | 23301 | 0.0 | 0.0 | -- |
| 1995 | 0 | 18658 | 0.0 | 0.0 | -- |
| 1996 | 0 | 16805 | 0.0 | 0.0 | -- |
| 1997 | 0 | 14603 | 0.0 | 0.0 | -- |
| 1998 | 0 | 11899 | 0.0 | 0.0 | -- |
| 1999 | 102.1 | 11899 | 0.9 | 2.6 | 39.9 |

Table A1.21. Lake trout/backcross harvest and quota for management area 5-1.

| Year | Harvest (kg) | Quota (kg) | Percent Taken |
|---|---|---|---|
| 1983 | 271 | N/A | N/A |
| 1984 | 822 | 1588 | 51.8 |
| 1985 | 2286 | 1588 | 144.0 |
| 1986 | 2591 | 2672 | 97.0 |
| 1987 | 1187 | 2562 | 46.3 |
| 1988 | 1387 | 2562 | 54.1 |
| 1989 | 845 | 2596 | 32.6 |
| 1990 | 1180 | 2482 | 47.5 |
| 1991 | 1187 | 2596 | 45.7 |
| 1992 | 1585 | 2596 | 61.0 |
| 1993 | 2468 | 2596 | 95.1 |
| 1994 | 3269 | 2596 | 125.7 |
| 1995 | 3598 | 2596 | 138.6 |
| 1996 | 5134 | 2596 | 197.8 |
| 1997 | 3874 | 2482 | 156.1 |
| 1998 | 5794 | 2482 | 233.4 |
| 1999 | 6652 | 2482 | 268.0 |

Table A1.22. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-2.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 6360 | N/A | N/A | 157.7 | 40.2 |
| 1984 | 9488 | 22612 | 42.0 | 154.4 | 61.4 |
| 1985 | 7239 | 22612 | 32.0 | 201.8 | 34.7 |
| 1986 | 2532 | 21354 | 11.9 | 69.5 | 37.5 |
| 1987 | 2507 | 21398 | 11.7 | 74.7 | 31.4 |
| 1988 | 2108 | 21398 | 9.9 | 21.9 | 94.0 |
| 1989 | 1683 | 19258 | 8.7 | 33.2 | 51.3 |
| 1990 | 2553 | 18901 | 13.5 | 31.0 | 82.2 |
| 1991 | 12278 | 31550 | 38.9 | 90.0 | 136.4 |
| 1992 | 15202 | 24649 | 61.7 | 111.5 | 136.3 |
| 1993 | 12074 | 33136 | 36.4 | 126.5 | 95.4 |
| 1994 | 21728 | 33137 | 65.5 | 127.5 | 170.3 |
| 1995 | 20408 | 33137 | 72.6 | 117.4 | 173.8 |
| 1996 | 28624 | 35453 | 80.7 | 198.1 | 144.5 |
| 1997 | 30861 | 38003 | 81.9 | 197.7 | 156.1 |
| 1998 | 45166 | 41804 | 108.0 | 324.8 | 139.1 |
| 1999 | 39502 | 41804 | 94.5 | 324.0 | 121.9 |

Table A1.23. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-2.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 0 | N/A | N/A | 0.0 | 0.0 | |
| 1984 | 8583 | 17270 | 49.7 | 59.5 | 141.9 | |
| 1985 | 11838 | 20120 | 58.8 | 90.8 | 101.8 | |
| 1986 | 10754 | 17270 | 62.3 | 159.9 | 67.5 | |
| 1987 | 8139 | 19841 | 41.0 | 123.7 | 65.8 | |
| 1988 | 7260 | 20163 | 36.0 | 124.4 | 58.4 | |
| 1989 | 109 | 20163 | 0.5 | 2.7 | 40.4 | |
| 1990 | 92 | 20001 | 0.5 | 1.5 | 62.9 | |
| 1991 | 3095 | 20000 | 15.5 | 37.7 | 82.1 | |
| 1992 | 11007 | 27904 | 40.0 | 117.8 | 93.4 | |
| 1993 | 11246 | 27163 | 41.4 | 118.4 | 95.0 | |
| 1994 | 16066 | 27163 | 59.1 | 116.3 | 138.1 | |
| 1995 | 12335 | 27163 | 45.4 | 128.8 | 95.8 | |
| 1996 | 17452 | 29163 | 59.8 | 188.3 | 92.7 | |
| 1997 | 17369 | 29163 | 60.4 | 179.6 | 96.7 | |
| 1998 | 18793 | 29163 | 64.4 | 178.7 | 105.2 | |
| 1999 | 19924 | 29163 | 68.3 | 213.2 | 93.4 | 8.6 |

Table A1.24. Yellow perch catch from targeted effort, quota, targeted effort and CPUE for management area 5-2.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 212 | N/A | N/A | 0.0 | 0.0 |
| 1984 | 179 | 907 | 19.7 | 12.3 | 14.5 |
| 1985 | 477 | 1043 | 45.7 | 14.2 | 31.1 |
| 1986 | 112 | 1043 | 10.7 | 15.0 | 5.1 |
| 1987 | 845 | 1132 | 74.6 | 38.9 | 20.3 |
| 1988 | 484 | 1244 | 38.9 | 7.1 | 68.2 |
| 1989 | 1 | 1244 | 0.1 | 0.1 | 0.1 |
| 1990 | 10 | 1244 | 0.8 | 0.5 | 18.2 |
| 1991 | 79 | 1730 | 4.6 | 3.3 | 23.9 |
| 1992 | 14 | 1153 | 1.2 | 0.6 | 23.3 |
| 1993 | 0 | 1244 | 0.0 | 0.0 | -- |
| 1994 | 0 | 1151 | 0.0 | 0.0 | -- |
| 1995 | 11 | 988 | 1.1 | 0.2 | 55.0 |
| 1996 | 0 | 922 | 0.0 | 0.0 | -- |
| 1997 | 0 | 864 | 1.2 | 0.0 | -- |
| 1998 | 0 | 788 | 0.0 | 0.0 | -- |
| 1999 | 0 | 788 | 0.0 | 0.0 | -- |

Table A1.25. Walleye catch from targeted effort, quota, targeted effort, and CPUE for management area 5-2.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 6671 | N/A | N/A | 237.4 | 28.1 |
| 1984 | 3443 | 5002 | 68.8 | 138.8 | 24.8 |
| 1985 | 1878 | 5002 | 37.5 | 105.5 | 17.8 |
| 1986 | 1981 | 4551 | 43.5 | 78.0 | 25.4 |
| 1987 | 2014 | 4561 | 44.2 | 92.4 | 21.8 |
| 1988 | 2144 | 4591 | 46.7 | 42.1 | 50.9 |
| 1989 | 1940 | 4591 | 42.3 | 91.1 | 21.3 |
| 1990 | 1133 | 4568 | 24.8 | 24.3 | 46.6 |
| 1991 | 2606 | 6192 | 42.1 | 73.2 | 35.6 |
| 1992 | 3739 | 6466 | 60.9 | 56.9 | 65.7 |
| 1993 | 1722 | 4566 | 37.7 | 38.0 | 45.3 |
| 1994 | 3131 | 4566 | 68.6 | 62.6 | 50.0 |
| 1995 | 3222 | 4566 | 70.6 | 72.2 | 44.6 |
| 1996 | 3243 | 4566 | 71.0 | 80.1 | 40.5 |
| 1997 | 1982 | 4566 | 54.5 | 48.0 | 41.3 |
| 1998 | 3156 | 4566 | 69.1 | 77.5 | 40.7 |
| 1999 | 1496 | 4566 | 32.8 | 41.8 | 35.8 |

Table A1.26. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-3.

| Year | Targeted Catch (kg) | | | | Quota (kg) | Percent Taken | Targeted Gill Effort (km) | | | CPUE (kg/km) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GB03 | GB04 | GB06 | Total | | | GB03 | GB06 | Total | GB03 | GB06 |
| 1983 | 2679 | 0 | 263 | 2942 | N/A | N/A | 41.8 | 10.2 | 52.0 | 64.1 | 25.8 |
| 1984 | 9026 | 0 | 324 | 9350 | 30120 | 31.0 | 71.6 | 8.9 | 80.5 | 121.8 | 36.4 |
| 1985 | 29541 | 10 | 2815 | 32366 | 30120 | 107.5 | 380.1 | 44.0 | 424.1 | 77.7 | 64.0 |
| 1986 | 23729 | 0 | 2700 | 26429 | 31881 | 82.9 | 253.1 | 67.7 | 320.8 | 86.8 | 39.5 |
| 1987 | 15916 | 107 | 1192 | 17215 | 39946 | 43.1 | 202.6 | 32.1 | 234.7 | 78.6 | 37.1 |
| 1988 | 5800 | 1 | 2368 | 8169 | 40197 | 20.3 | 179.9 | 18.1 | 198.0 | 32.2 | 130.8 |
| 1989 | 6872 | 0 | 2125 | 8997 | 36508 | 24.6 | 38.5 | 19.5 | 58.0 | 178.5 | 109.0 |
| 1990 | 10981 | 45 | 2127 | 13153 | 35440 | 37.1 | 69.9 | 17.3 | 87.2 | 157.2 | 123.1 |
| 1991 | 10311 | 0 | 2176 | 12487 | 36066 | 34.6 | 84.1 | 15.9 | 100.0 | 122.6 | 136.9 |
| 1992 | 10898 | 0 | 949 | 11847 | 37947 | 31.2 | 114.1 | 42.5 | 156.6 | 95.5 | 22.3 |
| 1993 | 8613 | 0 | 184 | 8797 | 36430 | 24.1 | 38.3 | 15.1 | 53.4 | 224.9 | 12.2 |
| 1994 | 15625 | 0 | 290 | 15915 | 43717 | 36.4 | 83.9 | 12.8 | 96.7 | 186.2 | 22.7 |
| 1995 | 16332 | 0 | 150 | 16482 | 41455 | 39.8 | 108.6 | 5.5 | 114.1 | 150.4 | 27.3 |
| 1996 | 14597 | 0 | 699 | 15296 | 38687 | 39.5 | 118.5 | 1.9 | 120.4 | 123.2 | 367.9 |
| 1997 | 12070 | 0 | na | 12070 | 43182 | 82.3 | 105.7 | na | na | 114.2 | na |
| 1998 | 12868 | 0 | na | 12868 | 43182 | 29.8 | 125.7 | na | na | 102.4 | na |
| 1999 | 28751 | 0 | na | 28751 | 43182 | 66.6 | 273.1 | na | 273.1 | 105.3 | na |

Table A1.27. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-3.

| Year | Targeted Catch (kg) | | | | Quota | % | Targeted Gill Effort (km) | | | | Gill CPUE (kg/km) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GB03 | GB04 | GB06 | Total | (kg) | Taken | GB03 | GB04 | GB06 | Total | GB03 Catch | GB03 Discard | GB04 Catch | GB06 Catch |
| 1983 | 36101 | 17283 | 45477 | 98861 | N/A | N/A | 691.6 | 426.1 | 1356.8 | 2474.5 | 52.2 | | 40.6 | 33.5 |
| 1984 | 50760 | 19340 | 60016 | 130116 | 182268 | 71.4 | 608.1 | 173.0 | 589.5 | 1370.6 | 83.4 | | 111.8 | 101.8 |
| 1985 | 68764 | 11704 | 84901 | 165369 | 182268 | 90.7 | 802.4 | 83.4 | 797.4 | 1683.2 | 85.7 | | 140.3 | 106.5 |
| 1986 | 47239 | 18150 | 64399 | 129788 | 182268 | 71.2 | 740.7 | 185.2 | 765.2 | 1691.1 | 63.8 | 12.2 | 98.0 | 84.2 |
| 1987 | 36063 | 20662 | 45287 | 102012 | 185787 | 54.9 | 542.0 | 172.6 | 691.3 | 1405.9 | 66.5 | 8.8 | 119.7 | 65.5 |
| 1988 | 53956 | 31826 | 67785 | 153567 | 185787 | 82.7 | 783.7 | 331.8 | 1093.4 | 2208.9 | 68.8 | 5.3 | 95.9 | 62.0 |
| 1989 | 66617 | 9665 | 73453 | 149735 | 185787 | 80.6 | 665.8 | 109.8 | 997.8 | 1773.4 | 100.1 | 9.2 | 88.0 | 73.6 |
| 1990 | 56829 | 5755 | 60718 | 123302 | 198722 | 62.0 | 707.5 | 54.9 | 791.4 | 1553.8 | 80.3 | 53.8 | 104.9 | 76.7 |
| 1991 | 49187 | 4324 | 56743 | 110254 | 204286 | 54.0 | 466.5 | 45.8 | 1054.5 | 1566.8 | 105.4 | 22.0 | 94.4 | 53.8 |
| 1992 | 56100 | 12159 | 57692 | 125951 | 204770 | 61.5 | 666.3 | 149.5 | 930.4 | 1746.2 | 84.2 | 19.3 | 81.3 | 62.0 |
| 1993 | 71153 | 27515 | 77512 | 176180 | 204286 | 86.2 | 981.6 | 391.8 | 1002.5 | 2375.9 | 72.4 | 15.4 | 70.2 | 77.3 |
| 1994 | 84577 | 36974 | 80362 | 201913 | 204286 | 98.8 | 1023.3 | 422.8 | 1150.9 | 2597.0 | 82.7 | 13.4 | 87.5 | 69.8 |
| 1995 | 55860 | 57776 | 66140 | 179776 | 204286 | 88.0 | 1113.2 | 933.6 | 894.1 | 2940.9 | 50.2 | 10.9 | 61.9 | 74.0 |
| 1996 | 38509 | 13179 | 83995 | 135683 | 214638 | 63.2 | 683.4 | 153.7 | 1367.6 | 2204.7 | 56.3 | 13.5 | 85.7 | 61.4 |
| 1997 | 33880 | 19066 | 78426 | 139066 | 204286 | 66.3 | 358.9 | 283.4 | 1503.1 | 2145.9 | 94.4 | 0.0 | 67.3 | 52.1 |
| 1998 | 9416 | 12454 | na | 21870 | 204286 | 10.7 | 87.8 | 128.2 | na | 216.0 | 107.2 | na | 97.1 | na |
| 1999 | 9149 | 6791 | na | 15939 | 204286 | 7.8 | 182.9 | 117.9 | na | 300.8 | 50.0 | na | 57.6 | na |

Table A1.28. Yellow perch harvest and quota for management area 5-3.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken |
|---|---|---|---|
| 1983 | 207 | N/A | N/A |
| 1984 | 433 | 4100 | 10.6 |
| 1985 | 193 | 4100 | 4.7 |
| 1986 | 52 | 4100 | 1.3 |
| 1987 | 1000 | 3899 | 25.6 |
| 1988 | 88 | 3899 | 2.3 |
| 1989 | 71 | 4554 | 1.6 |
| 1990 | 112 | 4423 | 2.5 |
| 1991 | 79 | 4525 | 1.7 |
| 1992 | 0 | 4548 | 0.0 |
| 1993 | 0 | 4552 | 0.0 |
| 1994 | 7 | 4116 | 0.2 |
| 1995 | 3 | 3356 | 0.1 |
| 1996 | 0 | 4302 | 0.0 |
| 1997 | 0 | 2809 | 0.2 |
| 1998 | 0 | 2412 | 0.0 |
| 1999 | 0 | 2412 | 0.0 |

Table A1.29. Lake trout/backcross harvest and quota for management area 5-3.

| Year | Harvest (kg) | | | | Quota | Percent |
|---|---|---|---|---|---|---|
| | GB03 | GB04 | GB06 | Total | (kg) | Taken |
| 1983 | 6 | 0 | 0 | 6 | N/A | N/A |
| 1984 | 0 | 0 | 0 | 0 | 4377 | 0.0 |
| 1985 | 252 | 0 | 1566 | 1818 | 4377 | 41.5 |
| 1986 | 1545 | 0 | 1520 | 3065 | 5044 | 60.8 |
| 1987 | 1332 | 0 | 1194 | 2526 | 2786 | 90.7 |
| 1988 | 525 | 0 | 1015 | 1540 | 2786 | 55.3 |
| 1989 | 42 | 0 | 568 | 610 | 2820 | 21.6 |
| 1990 | 137 | 0 | 292 | 429 | 2706 | 15.9 |
| 1991 | 226 | 0 | 1078 | 1304 | 2820 | 46.2 |
| 1992 | 36 | 0 | 1516 | 1552 | 3275 | 48.2 |
| 1993 | 318 | 0 | 192 | 510 | 2820 | 18.1 |
| 1994 | 203 | 46 | 509 | 758 | 2820 | 26.7 |
| 1995 | 496 | 29 | 840 | 1365 | 2820 | 48.4 |
| 1996 | 892 | 0 | 19 | 911 | 2820 | 41.3 |
| 1997 | 10771 | 0 | -- | 10771 | 2706 | 398.0 |
| 1998 | 96 | 330 | na | 426 | 2706 | 15.7 |
| 1999 | 7929 | 235 | na | 8164 | 2706 | 301.7 |

Table A1.30. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-4.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 1293 | N/A | N/A | 58.6 | 20.6 |
| 1984 | 291 | 5733 | 5.1 | 4.5 | 59.3 |
| 1985 | 587 | 5733 | 10.2 | 3.8 | 155.3 |
| 1986 | 714 | 5958 | 12.0 | 16.4 | 43.7 |
| 1987 | 3415 | 7225 | 47.3 | 50.3 | 67.9 |
| 1988 | 1303 | 7273 | 17.9 | 30.2 | 42.0 |
| 1989 | 2997 | 7220 | 41.5 | 36.5 | 82.1 |
| 1990 | 2019 | 6544 | 30.9 | 21.0 | 96.2 |
| 1991 | 4220 | 6538 | 64.5 | 56.3 | 75.0 |
| 1992 | 6345 | 6521 | 97.3 | 92.0 | 69.0 |
| 1993 | 7015 | 7586 | 92.5 | 107.4 | 65.3 |
| 1994 | 12362 | 9103 | 135.8 | 148.5 | 83.2 |
| 1995 | 9373 | 10013 | 93.6 | 69.6 | 134.7 |
| 1996 | 9081 | 11014 | 82.5 | 74.6 | 121.7 |
| 1997 | 10924 | 12116 | 90.2 | 51.8 | 210.7 |
| 1998 | 17337 | 13328 | 130.1 | 95.0 | 182.5 |
| 1999 | 13941 | 13328 | 104.6 | 83.2 | 167.6 |

Table A1.31. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-4.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | CPUE (kg/km) Discards |
|---|---|---|---|---|---|---|
| 1983 | 900 | N/A | N/A | 71.7 | 12.6 | |
| 1984 | 4746 | 13518 | 35.1 | 24.0 | 199.0 | |
| 1985 | 5835 | 15546 | 37.5 | 47.6 | 85.6 | |
| 1986 | 2901 | 13518 | 21.5 | 47.7 | 61.2 | |
| 1987 | 5252 | 17884 | 29.4 | 68.3 | 76.9 | |
| 1988 | 9368 | 18000 | 52.0 | 169.2 | 55.4 | |
| 1989 | 779 | 18000 | 4.3 | 5.6 | 139.1 | |
| 1990 | 169 | 18000 | 0.9 | 3.6 | 47.4 | |
| 1991 | 3140 | 18000 | 17.4 | 36.5 | 86.0 | |
| 1992 | 2584 | 17378 | 14.9 | 38.1 | 67.8 | |
| 1993 | 3812 | 18000 | 21.2 | 56.5 | 42.0 | |
| 1994 | 4021 | 18000 | 22.3 | 78.7 | 51.0 | |
| 1995 | 1635 | 18000 | 9.1 | 28.1 | 58.2 | |
| 1996 | 5141 | 18000 | 28.6 | 55.1 | 93.3 | |
| 1997 | 10088 | 18000 | 56.0 | 110.6 | 91.3 | |
| 1998 | 1348 | 18000 | 7.5 | 37.5 | 35.9 | |
| 1999 | 8425 | 18000 | 46.8 | 146.8 | 57.4 | 5.1 |

Table A1.32. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 5-4.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 4979 | N/A | N/A | 188.5 | 26.0 |
| 1984 | 4883 | 4767 | 102.4 | 66.1 | 73.9 |
| 1985 | 504 | 4767 | 10.6 | 11.9 | 42.4 |
| 1986 | 1476 | 4790 | 30.8 | 35.0 | 42.2 |
| 1987 | 2317 | 5230 | 44.3 | 46.9 | 49.4 |
| 1988 | 2268 | 5706 | 39.7 | 35.5 | 63.9 |
| 1989 | 682 | 5706 | 12.0 | 15.0 | 45.5 |
| 1990 | 1277 | 5706 | 22.4 | 17.8 | 71.6 |
| 1991 | 546 | 5706 | 9.6 | 16.9 | 32.3 |
| 1992 | 30 | 5707 | 0.1 | 1.4 | 21.4 |
| 1993 | 0 | 5706 | 0.0 | 0.0 | -- |
| 1994 | 0 | 5136 | 0.0 | 0.0 | -- |
| 1995 | 0 | 4109 | 0.0 | 0.0 | -- |
| 1996 | 0 | 3698 | 0.0 | 0.0 | -- |
| 1997 | 0 | 3328 | 0.0 | 0.0 | -- |
| 1998 | 0 | 2854 | 0.0 | 0.0 | -- |
| 1999 | 0 | 2854 | 0.0 | <0.1 | -- |

Table A1.33. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-5.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 5490 | N/A | N/A | 94.9 | 53.8 |
| 1984 | 4323 | 6759 | 64.0 | 39.3 | 109.4 |
| 1985 | 6162 | 6759 | 91.2 | 60.3 | 98.2 |
| 1986 | 9613 | 8111 | 118.5 | 95.6 | 101.0 |
| 1987 | 7595 | 10731 | 70.8 | 106.4 | 71.1 |
| 1988 | 3961 | 12620 | 31.4 | 55.7 | 70.5 |
| 1989 | 3900 | 11766 | 33.1 | 51.2 | 36.7 |
| 1990 | 5103 | 11353 | 44.9 | 54.1 | 94.3 |
| 1991 | 5914 | 11353 | 52.1 | 99.8 | 59.3 |
| 1992 | 11202 | 11353 | 98.7 | 179.3 | 62.5 |
| 1993 | 12240 | 12488 | 98.0 | 166.3 | 73.6 |
| 1994 | 16848 | 14985 | 112.4 | 203.7 | 82.7 |
| 1995 | 16347 | 16484 | 99.2 | 147.0 | 111.2 |
| 1996 | 17304 | 18133 | 95.4 | 145.3 | 119.1 |
| 1997 | 20161 | 19946 | 101.1 | 94.2 | 214.0 |
| 1998 | 23854 | 26477 | 90.1 | 160.7 | 148.4 |
| 1999 | 19566 | 21941 | 89.2 | 121.1 | 161.6 |

Table A1.34. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-5.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 14942 | N/A | N/A | 141.5 | 91.7 |
| 1984 | 13504 | 11265 | 119.9 | 134.2 | 101.4 |
| 1985 | 15063 | 12955 | 116.3 | 171.6 | 88.4 |
| 1986 | 10787 | 18925 | 57.0 | 152.2 | 66.5 |
| 1987 | 18396 | 31280 | 58.8 | 394.5 | 46.6 |
| 1988 | 25945 | 31488 | 82.4 | 399.7 | 64.9 |
| 1989 | 23767 | 31488 | 75.5 | 251.7 | 94.4 |
| 1990 | 5980 | 34364 | 17.4 | 89.9 | 66.5 |
| 1991 | 19481 | 34364 | 56.7 | 280.9 | 69.4 |
| 1992 | 24445 | 34370 | 70.1 | 369.3 | 66.2 |
| 1993 | 29323 | 34364 | 85.3 | 536.9 | 54.6 |
| 1994 | 20520 | 34364 | 59.7 | 418.9 | 49.0 |
| 1995 | 24991 | 34364 | 72.7 | 372.1 | 67.2 |
| 1996 | 24754 | 34364 | 72.0 | 376.0 | 65.8 |
| 1997 | 31768 | 37800 | 84.0 | 469.4 | 67.7 |
| 1998 | 14538 | 30736 | 47.3 | 345.6 | 42.1 |
| 1999 | 9954 | 30736 | 52.4 | 161.7 | 61.6 |

Table A1.35. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 5-5.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 8108 | N/A | N/A | 297.6 | 27.2 |
| 1984 | 8263 | 6804 | 121.4 | 127.5 | 64.8 |
| 1985 | 3991 | 6804 | 58.7 | 94.7 | 42.1 |
| 1986 | 4868 | 11794 | 41.3 | 94.0 | 51.8 |
| 1987 | 7332 | 12500 | 58.7 | 141.1 | 52.0 |
| 1988 | 12035 | 13182 | 91.3 | 180.0 | 66.9 |
| 1989 | 4840 | 13182 | 36.7 | 89.8 | 53.9 |
| 1990 | 4078 | 13128 | 31.1 | 56.1 | 72.6 |
| 1991 | 2162 | 13128 | 16.5 | 65.1 | 33.2 |
| 1992 | 460 | 13128 | 3.5 | 27.8 | 16.6 |
| 1993 | 35 | 13128 | 0.1 | 1.8 | 16.7 |
| 1994 | 1 | 11815 | 0.1 | 0.3 | 3.3 |
| 1995 | 0 | 9452 | 0.0 | 0.0 | -- |
| 1996 | 0 | 8507 | 0.0 | 0.0 | -- |
| 1997 | 0 | 7657 | 0.0 | 0.0 | -- |
| 1998 | 0 | 6564 | 0.0 | 0.0 | -- |
| 1999 | 0 | 6564 | 0.0 | 0.0 | -- |

Table A1.36. Lake whitefish harvest and quota for management area 5-6.

| Year | Harvest (kg) | Quota (kg) | Percent Taken |
|---|---|---|---|
| 1983 | 8450 | N/A | N/A |
| 1984 | 73 | 7480 | 1.0 |
| 1985 | 4283 | 7480 | 57.3 |
| 1986 | 8137 | 12211 | 66.6 |
| 1987 | 9060 | 16246 | 55.8 |
| 1988 | 3691 | 16354 | 22.6 |
| 1989 | 6572 | 16354 | 40.2 |
| 1990 | 1981 | 16308 | 12.1 |
| 1991 | 155 | 408 | 38.0 |
| 1992 | 165 | 431 | 38.3 |
| 1993 | 200 | 431 | 46.4 |
| 1994 | 2 | 517 | 0.3 |
| 1995 | 648 | 517 | 125.3 |
| 1996 | 250 | 11212 | 2.2 |
| 1997 | 29187 | 21556 | 135.4 |
| 1998 | 43190 | 21556 | 200.4 |
| 1999 | 17710 | 21556 | 82.2 |

Table A1.37. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-6.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 13582 | N/A | N/A | 159.4 | 54.6 | |
| 1984 | 27978 | 28748 | 97.3 | 303.7 | 91.2 | |
| 1985 | 34135 | 42077 | 81.1 | 325.5 | 103.4 | |
| 1986 | 29373 | 49822 | 59.0 | 342.5 | 84.0 | 2.7 |
| 1987 | 27263 | 54941 | 49.6 | 344.8 | 79.1 | 3.6 |
| 1988 | 40844 | 55307 | 73.8 | 477.3 | 85.6 | no data |
| 1989 | 41194 | 55307 | 74.5 | 376.2 | 109.5 | 7.5 |
| 1990 | 43668 | 60820 | 71.8 | 352.1 | 124.0 | 6.9 |
| 1991 | 40664 | 46070 | 88.3 | 419.0 | 97.1 | 9.8 |
| 1992 | 41455 | 52504 | 79.3 | 380.1 | 109.1 | 14.9 |
| 1993 | 43870 | 46070 | 95.2 | 517.2 | 84.8 | 5.3 |
| 1994 | 45001 | 46070 | 97.7 | 603.5 | 74.6 | 2.7 |
| 1995 | 37168 | 46070 | 80.7 | 483.8 | 76.8 | 10.5 |
| 1996 | 42762 | 75615 | 56.6 | 518.9 | 82.4 | 3.4 |
| 1997 | 42507 | 60820 | 100.5 | 568.0 | 74.8 | 4.7 |
| 1998 | 32733 | 60820 | 53.8 | 344.9 | 94.9 | 5.3 |
| 1999 | 20321 | 60820 | 33.4 | 380.7 | 54.3 | 5.2 |

Table A1.38. Lake trout/backcross harvest and quota for management area 5-6.

| Year | Harvest (kg) | Quota (kg) | Percent Taken |
|---|---|---|---|
| 1983 | 0 | N/A | N/A |
| 1984 | 0 | 2268 | 0.0 |
| 1985 | 7270 | 2268 | 320.5 |
| 1986 | 1717 | 2279 | 75.3 |
| 1987 | 3508 | 4558 | 77.0 |
| 1988 | 11923 | 4558 | 261.6 |
| 1989 | 4820 | 4558 | 105.7 |
| 1990 | 3373 | 4558 | 74.0 |
| 1991 | 12 | 0 | 0 |
| 1992 | 0 | 12 | 0 |
| 1993 | 0 | 12 | 0 |
| 1994 | 10 | 12 | 83.3 |
| 1995 | 30 | 12 | 250 |
| 1996 | 38 | 2291 | 1.7 |
| 1997 | 11690 | 4558 | 256.5 |
| 1998 | 16993 | 4558 | 372.8 |
| 1999 | 4204 | 4558 | 92.0 |

Table A1.39. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-7. Values shown are from reported commercial catch only.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 3039 | N/A | N/A | 130.4 | 22.0 |
| 1984 | 5649 | 13878 | 40.7 | 115.8 | 48.9 |
| 1985 | 8337 | 13878 | 60.1 | 181.3 | 46.3 |
| 1986 | 16783 | 20998 | 79.9 | 182.6 | 92.5 |
| 1987 | 9275 | 21021 | 44.1 | 142.8 | 64.9 |
| 1988 | 4431 | 24248 | 18.3 | 102.2 | 42.9 |
| 1989 | 6572 | 24338 | 27.0 | 100.7 | 65.2 |
| 1990 | 6446 | 14346 | 44.9 | 90.0 | 71.6 |
| 1991 | 5828 | 14618 | 39.9 | 33.6 | 173.5 |
| 1992 | 15229 | 15747 | 96.7 | 70.8 | 215.1 |
| 1993 | 13237 | 14127 | 93.7 | 123 | 107.6 |
| 1994 | 7953 | 15541 | 51.2 | 29.9 | 266.0 |
| 1995 | 12108 | 15671 | 77.3 | 64.4 | 188.0 |
| 1996 | 9841 | 39200 | 25.1 | 125.1 | 78.7 |
| 1997 | 8256 | 39200 | 71.3 | 118.0 | 70.0 |
| 1998 | 12432 | 39742 | 31.3 | 134.6 | 92.4 |
| 1999 | 49631 | 39742 | 124.9 | 349.5 | 142.0 |

Table A1.40. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-7.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 5204 | N/A | N/A | 44.5 | 70.2 | |
| 1984 | 6668 | 8111 | 82.2 | 78.2 | 85.8 | |
| 1985 | 9072 | 11918 | 76.1 | 102.4 | 89.2 | |
| 1986 | 4411 | 10364 | 42.6 | 60.5 | 68.5 | |
| 1987 | 8253 | 10471 | 78.8 | 137.4 | 60.1 | |
| 1988 | 10492 | 11441 | 91.7 | 108.6 | 96.6 | |
| 1989 | 9870 | 10538 | 93.7 | 76.1 | 129.7 | |
| 1990 | 11167 | 11592 | 96.3 | 97.4 | 114.7 | |
| 1991 | 10102 | 11592 | 87.1 | 85.2 | 118.6 | |
| 1992 | 15965 | 11594 | 137.7 | 150.9 | 105.8 | |
| 1993 | 8338 | 12202 | 68.3 | 82.3 | 101.3 | |
| 1994 | 12267 | 12202 | 100.5 | 193.6 | 63.4 | |
| 1995 | 8896 | 12202 | 72.9 | 71.0 | 125.3 | |
| 1996 | 5243 | 12202 | 43.0 | 63.1 | 83.1 | |
| 1997 | 10432 | 12202 | 83.0 | 188.1 | 55.5 | |
| 1998 | 8816 | 12202 | 72.3 | 109.6 | 80.4 | |
| 1999 | 8859 | 12202 | 72.6 | 212.3 | 41.7 | 10.0 |

Table A1.41. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 5-7.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 9454 | N/A | N/A | 154.2 | 61.0 |
| 1984 | 597 | 4672 | 12.8 | 5.6 | 75.4 |
| 1985 | 2081 | 4672 | 44.5 | 21.6 | 81.2 |
| 1986 | 7258 | 7031 | 103.2 | 97.4 | 72.6 |
| 1987 | 5504 | 10542 | 52.2 | 104.0 | 51.7 |
| 1988 | 6147 | 11211 | 54.8 | 97.1 | 56.6 |
| 1989 | 1693 | 11226 | 15.1 | 23.0 | 44.0 |
| 1990 | 4194 | 8729 | 48.0 | 65.7 | 63.9 |
| 1991 | 2228 | 8729 | 25.5 | 32.6 | 68.3 |
| 1992 | 2240 | 8922 | 25.1 | 50.7 | 44.2 |
| 1993 | 689 | 9183 | 7.5 | 20.1 | 34.4 |
| 1994 | 962 | 7039 | 13.4 | 28.7 | 32.9 |
| 1995 | 250 | 5631 | 4.4 | 8.8 | 28.4 |
| 1996 | 50 | 7274 | 0.7 | 2.7 | 18.5 |
| 1997 | 2 | 6547 | <0.1 | 0.6 | 4.2 |
| 1998 | 3 | 5437 | <0.1 | 0.7 | 4.3 |
| 1999 | 0 | 5437 | 0.0 | 0.0 | -- |

Table A1.42. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-8.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 12070 | N/A | N/A | 310.2 | 34.9 |
| 1984 | 898 | 13518 | 6.6 | 20.6 | 37.1 |
| 1985 | 3926 | 3605 | 108.9 | 27.2 | 137.9 |
| 1986 | 4560 | 3605 | 126.5 | 20.9 | 210.0 |
| 1987 | 3344 | 9012 | 37.1 | 30.2 | 108.9 |
| 1988 | 3468 | 9072 | 38.2 | 37.7 | 91.2 |
| 1989 | 4114 | 9072 | 45.3 | 27.1 | 151.7 |
| 1990 | 8239 | 9072 | 90.8 | 39.5 | 208.4 |
| 1991 | 9617 | 9979 | 96.4 | 44.9 | 214.2 |
| 1992 | 11715 | 11977 | 97.8 | 56.2 | 208.4 |
| 1993 | 15320 | 15420 | 99.4 | 108.1 | 141.7 |
| 1994 | 17381 | 18504 | 93.9 | 89.0 | 195.3 |
| 1995 | 15268 | 18504 | 82.5 | 95.1 | 160.5 |
| 1996 | 19528 | 30509 | 64.0 | 82.3 | 237.3 |
| 1997 | 22166 | 25966 | 156.6 | 72.5 | 305.7 |
| 1998 | 22329 | 24628 | 90.7 | 52.5 | 425.3 |
| 1999 | -- | 27091 | -- | -- | -- |

Table A1.43. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-8.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) Catch | Discards |
|---|---|---|---|---|---|---|
| 1983 | 25413 | N/A | N/A | 174.0 | 90.4 | |
| 1984 | 22639 | 13518 | 167.5 | 289.4 | 74.0 | |
| 1985 | 22546 | 25339 | 89.0 | 281.9 | 80.5 | |
| 1986 | 16711 | 23071 | 72.4 | 246.9 | 68.1 | |
| 1987 | 13786 | 16447 | 83.8 | 268.7 | 50.5 | |
| 1988 | 16339 | 16533 | 98.8 | 172.8 | 94.5 | |
| 1989 | 22366 | 16533 | 135.3 | 159.6 | 140.1 | |
| 1990 | 16968 | 18186 | 93.3 | 157.1 | 108.0 | |
| 1991 | 17905 | 18168 | 98.6 | 214.1 | 83.6 | |
| 1992 | 16442 | 18171 | 90.5 | 150.5 | 109.2 | |
| 1993 | 15378 | 18168 | 84.6 | 174.0 | 88.4 | |
| 1994 | 17577 | 18168 | 96.7 | 170.1 | 103.3 | |
| 1995 | 19991 | 19985 | 100.0 | 254.7 | 78.5 | 2.5 |
| 1996 | 20038 | 29956 | 66.9 | 262.2 | 76.4 | 5.4 |
| 1997 | 20263 | 22493 | 109.9 | 259.3 | 78.1 | 0.0 |
| 1998 | 17296 | 19985 | 86.5 | 199.7 | 86.6 | 4.7 |
| 1999 | 15595 | 19985 | 78.0 | 274.3 | 56.8 | 6.0 |

Table A1.44. Lake trout/backcross harvest from lake whitefish targeted effort, quota, lake whitefish targeted effort which caught lake trout, and CPUE for management area 5-8.

| Year | Harvest (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 17798 | N/A | N/A | 1.1 | 108.2 |
| 1984 | 2225 | 2268 | 98.1 | 0.0 | 0.0 |
| 1985 | 4220 | 4536 | 93.0 | 30.3 | 130.9 |
| 1986 | 3945 | 4536 | 87.0 | 20.9 | 164.2 |
| 1987 | 4374 | 4536 | 96.4 | 30.2 | 143.8 |
| 1988 | 4032 | 4536 | 88.9 | 37.7 | 102.3 |
| 1989 | 4584 | 4536 | 101.1 | 27.1 | 169.1 |
| 1990 | 4470 | 4536 | 98.5 | 36.3 | 123.3 |
| 1991 | 5456 | 4536 | 120.3 | 44.9 | 121.5 |
| 1992 | 4269 | 4536 | 96.5 | 56.2 | 76.0 |
| 1993 | 5707 | 4536 | 125.8 | 92.7 | 61.6 |
| 1994 | 6170 | 4536 | 136.0 | 87.3 | 70.7 |
| 1995 | 6273 | 4536 | 138.3 | 142.1 | 44.1 |
| 1996 | 5638 | 6799 | 82.9 | 156.5 | 36.0 |
| 1997 | 5148 | 6751 | 76.3 | 72.5 | 71.0 |
| 1998 | 3567 | 4536 | 78.6 | 42.2 | 84.5 |
| 1999 | -- | 4536 | -- | -- | -- |

Table A1.45. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 5-9.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 28233 | N/A | N/A | 634.4 | 38.9 |
| 1984 | 26863 | 26811 | 100.2 | 239.6 | 112.8 |
| 1985 | 33472 | 33565 | 99.7 | 128.8 | 261.5 |
| 1986 | 33112 | 40361 | 82.0 | 152.4 | 218.6 |
| 1987 | 19239 | 40441 | 47.6 | 151.4 | 127.1 |
| 1988 | 19457 | 40710 | 47.8 | 148.3 | 131.2 |
| 1989 | 18663 | 38460 | 48.5 | 136.6 | 136.6 |
| 1990 | 19937 | 40710 | 49.0 | 118.4 | 168.4 |
| 1991 | 38541 | 44590 | 86.4 | 164.3 | 234.6 |
| 1992 | 31404 | 35320 | 88.9 | 103.0 | 304.9 |
| 1993 | 50883 | 54743 | 92.9 | 194.3 | 261.9 |
| 1994 | 58702 | 60217 | 97.5 | 255.3 | 229.9 |
| 1995 | 56017 | 60217 | 93.0 | 204.0 | 274.6 |
| 1996 | 51195 | 66239 | 77.3 | 184.7 | 277.2 |
| 1997 | 49515 | 66239 | 75.3 | 152.8 | 324.0 |
| 1998 | 64684 | 72267 | 89.5 | 198.0 | 326.7 |
| 1999 | 74905 | 72267 | 103.7 | 226.4 | 330.9 |

Table A1.46. Chub catch from targeted effort, quota, targeted effort, and CPUE for management area 5-9.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 7001 | N/A | N/A | 82.5 | 29.1 |
| 1984 | 3135 | 3154 | 99.4 | 51.7 | 61.0 |
| 1985 | 2839 | 3627 | 78.3 | 38.4 | 74.4 |
| 1986 | 5596 | 6849 | 81.7 | 84.7 | 66.5 |
| 1987 | 2419 | 6736 | 35.9 | 58.4 | 41.2 |
| 1988 | 7058 | 6780 | 104.1 | 92.8 | 75.9 |
| 1989 | 11171 | 11303 | 98.8 | 85.1 | 131.2 |
| 1990 | 9991 | 9958 | 100.3 | 68.6 | 145.6 |
| 1991 | 7164 | 9958 | 71.9 | 61.1 | 117.2 |
| 1992 | 4937 | 8963 | 55.1 | 46.1 | 107.1 |
| 1993 | 8581 | 9958 | 86.2 | 117.0 | 73.4 |
| 1994 | 9646 | 9958 | 96.8 | 141.7 | 68.1 |
| 1995 | 7979 | 9958 | 80.1 | 133.5 | 59.8 |
| 1996 | 6398 | 9958 | 64.3 | 106.0 | 60.4 |
| 1997 | 9373 | 9958 | 95.3 | 146.8 | 63.9 |
| 1998 | 3857 | 9958 | 38.7 | 87.3 | 44.2 |
| 1999 | 579 | 9958 | 5.8 | 13.5 | 42.9 |

Table A1.47. Lake trout/backcross harvest from lake whitefish targeted effort, quota, lake whitefish targeted effort which caught lake trout, and CPUE for management area 5-9.

| Year | Harvest (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 0 | N/A | N/A | 0.0 | 0.0 |
| 1984 | 4 | 4037 | 0.1 | 3.2 | 1.3 |
| 1985 | 4000 | 4037 | 99.1 | 117.8 | 33.6 |
| 1986 | 4627 | 4930 | 93.9 | 130.2 | 35.5 |
| 1987 | 3090 | 4937 | 62.6 | 128.5 | 23.9 |
| 1988 | 4909 | 4937 | 99.4 | 124.1 | 39.5 |
| 1989 | 4574 | 4937 | 92.6 | 105.4 | 43.4 |
| 1990 | 4818 | 4937 | 97.6 | 79.6 | 60.6 |
| 1991 | 4729 | 4927 | 96.0 | 119.2 | 39.7 |
| 1992 | 2216 | 4240 | 52.3 | 61.5 | 36.0 |
| 1993 | 4800 | 4937 | 97.2 | 150.1 | 32.0 |
| 1994 | 4651 | 4937 | 94.1 | 186.4 | 24.9 |
| 1995 | 4992 | 4937 | 101.1 | 173.8 | 28.7 |
| 1996 | 4073 | 4937 | 82.5 | 160.7 | 25.3 |
| 1997 | 2617 | 4937 | 53.2 | 134.7 | 19.4 |
| 1998 | 3164 | 4882 | 64.8 | 186.1 | 17.0 |
| 1999 | 3069 | 4882 | 62.9 | 226.4 | 13.6 |

Table A1.48. Lake whitefish targeted catch and quota for management area 6-1.

| Year | Targeted Gill Net Catch (kg) | | | | Targeted Trap Net Catch (kg) | | | Targeted Catch Total | Quota (kg) | Percent Taken |
|---|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC01 | NC02 | Total | | | |
| 1983 | 26070 | 175116 | 14086 | 215272 | 0 | 0 | 0 | 215272 | N/A | N/A |
| 1984 | 35782 | 123298 | 24773 | 183853 | 0 | 100 | 100 | 183953 | 243345 | 75.6 |
| 1985 | 22957 | 129839 | 27709 | 180505 | 0 | 1797 | 1797 | 182302 | 271566 | 67.1 |
| 1986 | 24280 | 137953 | 14030 | 176263 | 2258 | 501 | 2759 | 179022 | 242779 | 73.7 |
| 1987 | 8924 | 146310 | 20369 | 175603 | 8113 | 21489 | 29602 | 205205 | 244031 | 84.1 |
| 1988 | 17297 | 124432 | 14090 | 155819 | 5002 | 23427 | 28429 | 184248 | 244031 | 75.5 |
| 1989 | 52116 | 69799 | 8687 | 130602 | 1952 | 8387 | 10339 | 140941 | 243151 | 58.0 |
| 1990 | 37589 | 73938 | 16638 | 128165 | 1134 | 6551 | 7685 | 135850 | 217577 | 62.4 |
| 1991 | 18175 | 112283 | 25528 | 155986 | 0 | 11654 | 11654 | 167640 | 216576 | 77.4 |
| 1992 | 24346 | 92346 | 53500 | 170192 | 0 | 2709 | 2709 | 172901 | 214342 | 80.7 |
| 1993 | 45553 | 106074 | 24123 | 175750 | 0 | 17395 | 17395 | 193145 | 214306 | 90.1 |
| 1994 | 18592 | 106146 | 30371 | 155109 | 0 | 145 | 145 | 155254 | 169065 | 91.7 |
| 1995 | 13381 | 149367 | 33581 | 196329 | 240 | 472 | 712 | 197041 | 205027 | 96.1 |
| 1996 | 23808 | 177196 | 29763 | 230767 | 0 | 0 | 0 | 230767 | 239665 | 96.3 |
| 1997 | 10447 | 194780 | 40575 | 245802 | 0 | 0 | 0 | 245802 | 268173 | 91.7 |
| 1998 | 32079 | 192830 | 51936 | 276845 | 0 | 0 | 0 | 276845 | 307458 | 90.0 |
| 1999 | 24193 | 138843 | 51952 | 214988 | 0 | 0 | 0 | 214988 | 260489 | 82.5 |

Table A1.49. Lake whitefish targeted effort and CPUE for management area 6-1.

| Year | Targeted Gill Net Effort (km) | | | | Targeted Trap Net Effort (# lifts) | | | Gill CPUE (kg/km) | | | Trap CPUE (kg/lift) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC01 | NC02 | Total | NC01 | NC02 | NC03 | NC01 | NC02 |
| 1983 | 344.6 | 2544.6 | 320.7 | 3209.9 | 0 | 0 | 0 | 75.7 | 68.8 | 43.9 | 0.0 | 0.0 |
| 1984 | 347.7 | 2173.7 | 459.0 | 2980.4 | 0 | 2 | 2 | 102.9 | 56.7 | 54.0 | 0.0 | 50.0 |
| 1985 | 336.0 | 2522.9 | 500.0 | 3358.9 | 0 | 24 | 24 | 68.3 | 51.5 | 55.4 | 0.0 | 74.9 |
| 1986 | 463.3 | 2699.0 | 331.0 | 3493.3 | 17 | 4 | 21 | 52.4 | 51.1 | 42.4 | 132.8 | 125.3 |
| 1987 | 230.8 | 2328.3 | 386.4 | 2945.5 | 58 | 138 | 196 | 38.7 | 62.8 | 52.7 | 139.9 | 155.7 |
| 1988 | 414.9 | 2218.7 | 272.6 | 2906.2 | 61 | 198 | 259 | 41.7 | 56.0 | 51.7 | 82.0 | 118.3 |
| 1989 | 1139.1 | 1691.4 | 276.0 | 3106.5 | 23 | 103 | 126 | 45.8 | 41.3 | 31.5 | 84.9 | 81.4 |
| 1990 | 909.9 | 1689.4 | 494.7 | 3094.0 | 27 | 146 | 173 | 41.3 | 43.8 | 33.6 | 42.0 | 44.9 |
| 1991 | 385.7 | 1847.5 | 415.8 | 2649.0 | 0 | 114 | 114 | 47.1 | 60.8 | 61.4 | 0.0 | 102.2 |
| 1992 | 532.7 | 1583.5 | 684.3 | 2800.5 | 0 | 44 | 44 | 45.7 | 58.3 | 78.2 | 0.0 | 61.6 |
| 1993 | 808.8 | 1905.2 | 418.3 | 3132.3 | 0 | 182 | 182 | 56.3 | 55.6 | 56.3 | 0.0 | 95.6 |
| 1994 | 360.7 | 1544.5 | 472.8 | 2378.0 | 0 | 3 | 3 | 51.5 | 68.7 | 64.2 | 0.0 | 48.3 |
| 1995 | 180.1 | 1489.6 | 280.1 | 1949.8 | 2 | 6 | 8 | 74.3 | 100.3 | 119.9 | 120.0 | 78.7 |
| 1996 | 258.6 | 1414.6 | 214.1 | 1887.3 | 0 | 0 | 0 | 92.1 | 125.3 | 139.0 | -- | -- |
| 1997 | 139.4 | 1719.5 | 232.9 | 2091.8 | 0 | 0 | 0 | 74.9 | 113.3 | 174.2 | -- | -- |
| 1998 | 318.2 | 1871.0 | 304.3 | 2493.5 | 0 | 0 | 0 | 100.8 | 103.1 | 170.7 | -- | -- |
| 1999 | 213.7 | 1260.9 | 313.6 | 1788.2 | 0 | 0 | 0 | 113.2 | 109.6 | 165.4 | -- | -- |

Table A1.50. Yellow perch targeted catch and quota for management area 6-1.

| Year | Targeted Gill Net Catch (kg) | | | | Targeted Trap Net Catch (kg) | | | Targeted Catch Total | Quota (kg) | Percent Taken |
|---|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC02 | NC03 | Total | | | |
| 1983 | 0 | 11003 | 19317 | 23683 | 0 | 0 | 0 | 23683 | N/A | N/A |
| 1984 | 67 | 9221 | 38831 | 48119 | 0 | 0 | 0 | 48119 | 71798 | 67.0 |
| 1985 | 0 | 6993 | 32834 | 39827 | 0 | 0 | 0 | 39827 | 80299 | 49.6 |
| 1986 | 118 | 3532 | 20149 | 23799 | 0 | 2 | 2 | 23801 | 75170 | 31.7 |
| 1987 | 0 | 4292 | 29202 | 33495 | 0 | 0 | 0 | 33495 | 75284 | 44.5 |
| 1988 | 417 | 8247 | 43679 | 52343 | 0 | 0 | 0 | 52343 | 82069 | 63.8 |
| 1989 | 1195 | 4944 | 32773 | 38912 | 0 | 1077 | 1077 | 39989 | 81381 | 47.8 |
| 1990 | 863 | 7814 | 33419 | 42096 | 0 | 312 | 312 | 42408 | 72916 | 57.7 |
| 1991 | 1309 | 5614 | 43422 | 50345 | 0 | 256 | 256 | 50601 | 67418 | 75.1 |
| 1992 | 1254 | 9844 | 25936 | 37034 | 1177 | 1433 | 2610 | 39644 | 68793 | 57.6 |
| 1993 | 1206 | 3315 | 12655 | 17176 | 79 | 913 | 992 | 18168 | 60676 | 29.9 |
| 1994 | 0 | 2397 | 14357 | 16754 | 0 | 453 | 453 | 17207 | 36773 | 46.8 |
| 1995 | 0 | 2223 | 12241 | 14464 | 0 | 1 | 1 | 14465 | 35155 | 41.2 |
| 1996 | 0 | 542 | 7673 | 8215 | 0 | 10 | 10 | 8225 | 33802 | 24.3 |
| 1997 | 0 | 840 | 5806 | 6646 | 0 | 0 | 0 | 6646 | 56498 | 11.8 |
| 1998 | 0 | 126 | 8743 | 8869 | 0 | 0 | 0 | 8869 | 27319 | 32.5 |
| 1999 | 0 | 192 | 10155 | 10347 | 0 | 0 | 0 | 10347 | 31424 | 32.9 |

Table A1.51. Yellow perch targeted effort and CPUE for management area 6-1.

| Year | Targeted Gill Net Effort (km) | | | | Targeted Trap Net Effort (#lifts) | | | Gill CPUE (kg/km) | | | Trap (CPUE) (kg/lift) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC02 | NC03 | Total | NC01 | NC02 | NC03 | NC03 |
| 1983 | 0.0 | 215.3 | 386.3 | 601.6 | 0 | 0 | 0 | 0.0 | 51.1 | 50.0 | -- |
| 1984 | 1.3 | 179.8 | 734.7 | 915.8 | 0 | 0 | 0 | 51.5 | 51.3 | 52.9 | -- |
| 1985 | 0.0 | 150.5 | 591.1 | 741.6 | 0 | 0 | 0 | 0.0 | 46.5 | 55.5 | -- |
| 1986 | 1.0 | 142.5 | 603.8 | 747.3 | 0 | 3 | 3 | 118.0 | 24.8 | 33.4 | 0.9 |
| 1987 | 0.0 | 100.2 | 612.0 | 712.2 | 0 | 0 | 0 | 0.0 | 42.8 | 47.7 | -- |
| 1988 | 7.4 | 187.0 | 670.4 | 864.8 | 0 | 0 | 0 | 56.4 | 44.1 | 65.2 | -- |
| 1989 | 20.9 | 187.8 | 610.6 | 819.3 | 0 | 88 | 88 | 57.2 | 26.3 | 53.7 | 12.2 |
| 1990 | 11.1 | 218.9 | 597.2 | 827.2 | 0 | 148 | 148 | 78.0 | 35.7 | 56.0 | 2.1 |
| 1991 | 28.3 | 182.8 | 1083.0 | 1294.1 | 0 | 37 | 37 | 46.2 | 30.7 | 40.1 | 6.9 |
| 1992 | 6.8 | 220.3 | 875.2 | 1102.3 | 173 | 345 | 518 | 156.8 | 37.6 | 29.6 | 4.2 |
| 1993 | 7.6 | 113.5 | 438.1 | 559.2 | 60 | 216 | 276 | 158.8 | 29.2 | 28.9 | 4.3 |
| 1994 | 0.0 | 61.4 | 609.5 | 670.90 | 0 | 65 | 65 | 0.0 | 39.0 | 24.4 | 7.0 |
| 1995 | 0.0 | 82.1 | 451.2 | 533.3 | 0 | 1 | 1 | 0.0 | 27.1 | 27.1 | 1.0 |
| 1996 | 0.0 | 26.5 | 327.9 | 354.4 | 0 | 5 | 5 | 0.0 | 20.5 | 23.4 | 2.0 |
| 1997 | 0.0 | 26.5 | 200.0 | 226.5 | 0 | 0 | 0 | 0.0 | 31.7 | 29.0 | -- |
| 1998 | 0.0 | 13.8 | 260.2 | 274.0 | 0 | 0 | 0 | 0.0 | 9.1 | 33.6 | -- |
| 1999 | 0.0 | 8.0 | 246.4 | 254.4 | 0 | 0 | 0 | 0.0 | 23.8 | 35.5 | -- |

Table A1.52. Walleye targeted catch and quota for management area 6-1.

| Year | Targeted Gill Net Catch (kg) | | | | Targeted Trap Net Catch (kg) | | | | Catch | Quota | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC01 | NC02 | NC03 | Total | Total | (kg) | Taken |
| 1983 | 5106 | 2776 | 2324 | 10206 | 0 | 159 | 608 | 767 | 10973 | N/A | N/A |
| 1984 | 4659 | 2340 | 3774 | 10773 | 0 | 0 | 65 | 65 | 10838 | 22002 | 49.0 |
| 1985 | 12284 | 2219 | 2855 | 17358 | 0 | 65 | 0 | 65 | 17423 | 22002 | 78.9 |
| 1986 | 8135 | 3649 | 2613 | 14397 | 9 | 0 | 582 | 582 | 14979 | 22001 | 65.4 |
| 1987 | 7143 | 2449 | 2274 | 11866 | 7 | 619 | 103 | 722 | 12588 | 22227 | 53.4 |
| 1988 | 5910 | 1737 | 4184 | 11831 | 14 | 222 | 0 | 222 | 12053 | 22203 | 54.7 |
| 1989 | 10474 | 3238 | 2702 | 16414 | 0 | 315 | 17 | 332 | 16746 | 22383 | 73.3 |
| 1990 | 7943 | 2002 | 2529 | 12474 | 0 | 60 | 1047 | 1107 | 13581 | 21224 | 58.8 |
| 1991 | 7638 | 1897 | 2644 | 12179 | 0 | 63 | 433 | 496 | 12675 | 20069 | 63.2 |
| 1992 | 10101 | 381 | 1841 | 12323 | 0 | 46 | 385 | 431 | 12754 | 20111 | 55.8 |
| 1993 | 7182 | 904 | 1956 | 10042 | 0 | 100 | 32 | 132 | 10174 | 20109 | 50.6 |
| 1994 | 6249 | 453 | 1161 | 7863 | 0 | 0 | 0 | 0 | 7863 | 16100 | 48.9 |
| 1995 | 6125 | 666 | 626 | 7417 | 0 | 0 | 0 | 0 | 7417 | 10385 | 71.4 |
| 1996 | 4755 | 250 | 351 | 5356 | 0 | 0 | 17 | 17 | 5373 | 10431 | 51.5 |
| 1997 | 3387 | 85 | 739 | 4211 | 0 | 0 | 0 | 0 | 4211 | 9818 | 42.9 |
| 1998 | 3833 | 350 | 562 | 4745 | 0 | 0 | 0 | 0 | 4745 | 9524 | 49.8 |
| 1999 | 2684 | 1325 | 1025 | 5034 | 0 | 0 | 0 | 0 | 5034 | 9924 | 50.7 |

Table A1.53. Walleye targeted effort for management area 6-1.

| Year | Targeted Gill Net Effort (km) | | | | Targeted Trap Net Effort (# lifts) | | | |
|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | NC01 | NC02 | NC03 | Total |
| 1983 | 172.6 | 288.3 | 42.8 | 503.7 | 0 | 9 | 57 | 66 |
| 1984 | 153.1 | 312.4 | 104.1 | 569.6 | 0 | 0 | 21 | 21 |
| 1985 | 367.8 | 241.8 | 45.3 | 654.9 | 0 | 11 | 0 | 11 |
| 1986 | 334.4 | 283.6 | 41.8 | 659.8 | 5 | 0 | 74 | 79 |
| 1987 | 268.2 | 245.6 | 92.8 | 606.6 | 4 | 39 | 36 | 79 |
| 1988 | 262.5 | 140.7 | 48.2 | 451.4 | 4 | 48 | 0 | 52 |
| 1989 | 502.7 | 387.7 | 36.7 | 927.1 | 0 | 17 | 20 | 19 |
| 1990 | 267.9 | 27.3 | 23.1 | 318.4 | 0 | 2 | 44 | 46 |
| 1991 | 294.1 | 342.1 | 192.8 | 829.0 | 0 | 24 | 27 | 51 |
| 1992 | 402.8 | 187.9 | 33.0 | 623.7 | 0 | 28 | 125 | 171 |
| 1993 | 318.8 | 150.2 | 47.5 | 516.5 | 0 | 34 | 12 | 46 |
| 1994 | 210.3 | 7.0 | 5.2 | 222.5 | 0 | 0 | 0 | 0 |
| 1995 | 194.5 | 10.7 | 12.4 | 217.6 | 0 | 0 | 0 | 0 |
| 1996 | 153.1 | 6.5 | 10.5 | 170.1 | 0 | 0 | 5 | 5 |
| 1997 | 90.7 | 4.6 | 18.8 | 114.1 | 0 | 0 | 0 | 0 |
| 1998 | 89.3 | 6.1 | 11.8 | 107.2 | 0 | 0 | 0 | 0 |
| 1999 | 61.5 | 21.9 | 11.2 | 94.6 | 0 | 0 | 0 | 0 |

Table A1.54. Walleye CPUE for management area 6-1.

| Year | Gill CPUE (kg/km) | | | Trap CPUE (kg/net) | | |
|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | NC01 | NC02 | NC03 |
| 1983 | 29.6 | 8.5 | 54.3 | -- | 17.0 | 10.7 |
| 1984 | 30.4 | 7.0 | 36.3 | -- | -- | 3.1 |
| 1985 | 33.4 | 8.7 | 63.0 | -- | 5.9 | -- |
| 1986 | 24.3 | 12.2 | 62.5 | 1.9 | -- | 7.8 |
| 1987 | 26.6 | 7.0 | 24.5 | 1.9 | 16.0 | 2.9 |
| 1988 | 22.5 | 10.6 | 86.8 | 3.6 | 4.6 | -- |
| 1989 | 20.8 | 7.3 | 73.6 | -- | 18.2 | 8.5 |
| 1990 | 29.6 | 71.0 | 109.5 | -- | 3.0 | 12.5 |
| 1991 | 26.0 | 5.5 | 13.7 | -- | 2.6 | 16.0 |
| 1992 | 25.1 | 2.0 | 55.8 | -- | 1.6 | 3.1 |
| 1993 | 22.5 | 6.0 | 41.2 | -- | 2.9 | 2.7 |
| 1994 | 29.7 | 64.7 | 223.3 | -- | -- | -- |
| 1995 | 31.5 | 62.2 | 50.5 | -- | -- | -- |
| 1996 | 31.1 | 38.5 | 33.4 | -- | -- | 3.4 |
| 1997 | 37.4 | 18.6 | 39.4 | -- | -- | -- |
| 1998 | 42.9 | 57.4 | 47.6 | -- | -- | -- |
| 1999 | 43.6 | 60.4 | 93.3 | -- | -- | -- |

Table A1.55. Lake trout/backcross catch, quota and CPUE for management area 6-1.

| Year | Harvest (kg) | | | | Quota | Percent | Gill CPUE (kg/km) | | |
|---|---|---|---|---|---|---|---|---|---|
| | NC01 | NC02 | NC03 | Total | (kg) | Taken | NC01 | NC02 | NC03 |
| 1983 | 10 | 139 | 14 | 318 | N/A | N/A | 0.6 | 2.0 | 0.0 |
| 1984 | 38 | 98 | 70 | 206 | 2743 | 7.5 | 2.0 | 1.2 | 0.0 |
| 1985 | 41 | 504 | 1261 | 1806 | 2743 | 65.8 | 1.6 | 1.2 | 4.7 |
| 1986 | 54 | 1939 | 2651 | 4644 | 5612 | 82.8 | 1.4 | 2.1 | 6.0 |
| 1987 | 6 | 2993 | 1306 | 4305 | 5397 | 79.8 | 0.8 | 3.8 | 3.1 |
| 1988 | 39 | 2436 | 1565 | 4040 | 5397 | 74.9 | 0.9 | 3.1 | 9.5 |
| 1989 | 450 | 2548 | 2837 | 5835 | 5395 | 108.2 | 1.9 | 3.3 | 9.4 |
| 1990 | 483 | 2730 | 3914 | 7127 | 7735 | 92.1 | 2.3 | 5.3 | 7.1 |
| 1991 | 653 | 4135 | 3800 | 8588 | 7232 | 118.8 | 4.5 | 3.5 | 6.7 |
| 1992 | 567 | 3944 | 4692 | 9203 | 8494 | 108.3 | 2.5 | 3.8 | 8.3 |
| 1993 | 989 | 4376 | 2595 | 7960 | 8494 | 93.7 | 2.7 | 3.2 | 5.1 |
| 1994 | 935 | 4157 | 4192 | 9284 | 5550 | 167.3 | 2.8 | 3.7 | 8.0 |
| 1995 | 875 | 8273 | 4443 | 13594 | 5322 | 255.4 | 3.7 | 7.4 | 11.6 |
| 1996 | 379 | 5186 | 9235 | 14800 | 5550 | 266.7 | 1.8 | 5.8 | 34.6 |
| 1997 | 134 | 4349 | 3963 | 8446 | 5322 | 165.2 | 1.6 | 4.2 | 19.4 |
| 1998 | 323 | 6340 | 2602 | 9265 | 5737 | 161.5 | 1.2 | 4.5 | 9.6 |
| 1999 | 69 | 5975 | 2207 | 8251 | 6437 | 128.2 | 0.3 | 4.7 | 8.1 |

Table A1.56. Northern pike harvest and available quota for management area 6-1.

| Year | Catch (kg) | Quota (kg) | Percent Taken |
|---|---|---|---|
| 1983 | 7658 | N/A | N/A |
| 1984 | 8484 | 19553 | 43.4 |
| 1985 | 10302 | 19553 | 52.7 |
| 1986 | 10000 | 19025 | 52.6 |
| 1987 | 6709 | 19069 | 35.2 |
| 1988 | 5630 | 19069 | 29.5 |
| 1989 | 7641 | 19410 | 39.4 |
| 1990 | 6459 | 18729 | 34.5 |
| 1991 | 4068 | 16036 | 25.4 |
| 1992 | 4072 | 16036 | 25.4 |
| 1993 | 2540 | 16036 | 15.8 |
| 1994 | 1689 | 8579 | 19.7 |
| 1995 | 1025 | 8125 | 12.6 |
| 1996 | 986 | 8579 | 11.5 |
| 1997 | 380 | 8125 | 4.7 |
| 1998 | 838 | 8392 | 9.6 |
| 1999 | 889 | 8792 | 10.1 |

Table A1.57. Lake whitefish catch from targeted effort, quota, targeted effort, and CPUE for management area 6-3.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 592 | N/A | N/A | 54.2 | 10.6 |
| 1984 | 559 | 6759 | 8.3 | 13.2 | 39.2 |
| 1985 | 128 | 6759 | 1.9 | 2.8 | 46.1 |
| 1986 | 274 | 5910 | 4.6 | 6.4 | 37.5 |
| 1987 | 82 | 4338 | 1.9 | 11.9 | 6.8 |
| 1988 | 198 | 4336 | 4.6 | 3.2 | 61.9 |
| 1989 | 849 | 4855 | 17.5 | 1.1 | 770.9 |
| 1990 | 2507 | 4774 | 52.5 | 14.8 | 169.1 |
| 1991 | 1146 | 4774 | 24.0 | 3.7 | 309.7 |
| 1992 | 800 | 4774 | 16.8 | 6.5 | 123.1 |
| 1993 | 62 | 4774 | 1.3 | 1.1 | 55.6 |
| 1994 | 2267 | 4774 | 47.5 | 19.4 | 116.9 |
| 1995 | 765 | 4774 | 16.0 | 7.7 | 99.4 |
| 1996 | 1527 | 4432 | 34.5 | 21.5 | 71.0 |
| 1997 | 0 | 3818 | 0.0 | 0.0 | -- |
| 1998 | 526 | 3818 | 13.8 | na | na |
| 1999 | 0 | 3818 | 0.0 | 0.0 | -- |

Table A1.58. Yellow perch catch from targeted effort, quota, targeted effort, and CPUE for management area 6-3.

| Year | Targeted Catch (kg) | Quota (kg) | Percent Taken | Targeted Effort (km) | CPUE (kg/km) |
|---|---|---|---|---|---|
| 1983 | 7758 | N/A | N/A | 146.0 | 50.6 |
| 1984 | 6153 | 12825 | 48.0 | 113.9 | 54.4 |
| 1985 | 113 | 4324 | 2.6 | 36.7 | 58.7 |
| 1986 | 1376 | 5450 | 25.2 | 44.6 | 31.1 |
| 1987 | 836 | 5347 | 15.6 | 19.0 | 44.3 |
| 1988 | 4029 | 5347 | 75.4 | 123.1 | 32.7 |
| 1989 | 5 | 1245 | 0.4 | 5.5 | 0.9 |
| 1990 | 0 | 1245 | 0.0 | 0.0 | -- |
| 1991 | 0 | 1245 | 0.0 | 0.0 | -- |
| 1992 | 0 | 1245 | 0.0 | 0.0 | -- |
| 1993 | 0 | 1245 | 0.0 | 0.0 | -- |
| 1994 | 0 | 1245 | 0.0 | 0.0 | -- |
| 1995 | 0 | 1048 | 0.0 | 0.0 | -- |
| 1996 | 0 | 904 | 0.0 | 0.0 | -- |
| 1997 | 0 | 896 | 0.0 | 0.0 | -- |
| 1998 | 0 | 623 | 0.0 | 0.0 | -- |
| 1999 | 0 | 623 | 0.0 | 0.0 | -- |

Table A1.59. Lake trout/backcross harvest, quota, effort and CPUE for management area 6-3.

| Year | Harvest (kg) | Quota (kg) | Percent Taken | CPUE (kg/km) |
|---|---|---|---|---|
| 1983 | 2041 | N/A | N/A | 25.7 |
| 1984 | 717 | 1134 | 63.2 | 1.0 |
| 1985 | 487 | 1134 | 42.9 | 150.0 |
| 1986 | 563 | 1134 | 49.6 | 57.1 |
| 1987 | 430 | 1023 | 42.0 | 61.6 |
| 1988 | 2135 | 1023 | 208.7 | 523.0 |
| 1989 | 941 | 877 | 107.3 | na |
| 1990 | 553 | 888 | 71.4 | 197.5 |
| 1991 | 362 | 888 | 40.8 | 181.0 |
| 1992 | 517 | 888 | 58.2 | 105.4 |
| 1993 | 89 | 888 | 10.0 | 59.8 |
| 1994 | 259 | 888 | 29.2 | 18.9 |
| 1995 | 19 | 888 | 2.1 | 17.3 |
| 1996 | 181 | 774 | 23.4 | 8.4 |
| 1997 | 0 | 660 | 0.0 | -- |
| 1998 | 26 | 660 | 3.9 | na |
| 1999 | 0 | 772 | 0.0 | -- |

## APPENDIX 2

Table A2.1. Standardized year-class strength index values from assessment netting projects in various Lake Huron management areas, using multi-filament nets to 1994.

| Year | Whitefish | | | Chub | | | | | Yellow Perch | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | 4-4 | 4-5 | 5-8 | 4-4 | 4-5 | 5-3 | | 5-8 | 4-4 | 4-5 | 6-1 |
| | | | | | | GB03* | GB06* | | | | |
| 1976 | | | 0.2 | | | | | 1.0 | | | |
| 1977 | | | 7.3 | 11.4 | | | | 2.7 | | | |
| 1978 | 6.1 | | 2.7 | 4.2 | | | | 3.6 | | | |
| 1979 | 7.1 | | 1.0 | 3.0 | | | | 2.9 | 0.3 | | |
| 1980 | 9.6 | | 0.6 | 9.1 | 5.6 | | | 12.1 | 6.6 | | |
| 1981 | 9.0 | 0.2 | 0.4 | 4.6 | 2.6 | | | 4.1 | 5.3 | 11.8 | |
| 1982 | 8.6 | 11.3 | 7.7 | 20.0 | 20.3 | 2.7 | | 5.5 | 5.3 | 7.4 | 9.0 |
| 1983 | 5.7 | 1.4 | 0.9 | 13.4 | 8.2 | 15.2 | | 55.2 | 26.6 | 2.8 | 24.1 |
| 1984 | 5.1 | 0.9 | 0.4 | 20.1 | 14.1 | 17.6 | 17.4 | 5.8 | 3.6 | 1.8 | 3.1 |
| 1985 | 9.9 | 5.1 | 1.9 | 2.7 | 5.1 | 11.3 | 8.2 | 2.4 | 0.4 | 4.4 | 3.0 |
| 1986 | 16.0 | 24.2 | 2.8 | 2.8 | 3.4 | 3.9 | 1.1 | 2.1 | 14.5 | 12.9 | 6.3 |
| 1987 | 22.5 | 8.3 | 14.1 | 2.4 | 2.3 | 2.4 | 3.3 | 2.9 | 25.2 | 15.1 | 32.4 |
| 1988 | 7.7 | 20.6 | 24.1 | 43.3 | 24.1 | 17.9 | 25.2 | 24.1 | 17.3 | 22.7 | 9.1 |
| 1989 | 12.1 | 21.0 | 26.4 | 7.9 | 14.9 | 12.5 | 12.7 | 6.0 | 2.9 | 10.0 | 10.3 |
| 1990 | 15.5 | 9.9 | 30.6 | 4.0 | 9.1 | 9.4 | 5.6 | 9.7 | 2.5 | 15.7 | 3.9 |
| 1991 | 9.0 | 8.4 | 27.8 | 0.3 | 6.0 | 5.9 | 8.3 | 15.6 | 20.1 | 14.7 | 11.0 |
| 1992 | 3.3 | 1.1 | 18.5 | 0 | | | | 2.3 | 0.1 | 1.5 | 0.2 |
| 1993 | 0.9 | 5.6 | 26.5 | | | | | | 5.4 | 0 | 0.5 |
| 1994 | | | | | | | | | | | |
| Mean | 9.3 | 9.1 | 10.2 | 9.3 | 9.6 | 9.9 | 10.2 | 9.3 | 9.1 | 9.3 | 9.4 |

* GB03 and GB06 are assessment sub-areas of management area 5-3.

Table A2.2. Standardized year-class strength index values from assessment netting projects in various Lake Huron management areas, using monofilament nets since 1993.

| Year | Whitefish | | | Chub | | | | | Yellow Perch | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | 4-4 | 4-5 | 5-8 | 4-4 | 4-5 | 5-3 | | 5-8 | 4-4 | 4-5 | 6-1 |
| | | | | | | GB03* | GB06* | | | | |
| 1988 | | | | | | 11.8 | 5.7 | | | | |
| 1989 | | | | 16.7 | 18.9 | 13.0 | 18.5 | 2.8 | | | |
| 1990 | 20.5 | 13.6 | 22.6 | 28.2 | 16.4 | 16.5 | 16.5 | 3.9 | 6.1 | 3.5 | 11.0 |
| 1991 | 11.2 | 14.3 | 12.5 | 3.7 | 11.0 | 12.8 | 7.2 | 12.2 | 55.5 | 14.0 | 14.7 |
| 1992 | 8.3 | 2.6 | 8.0 | 0.7 | 3.1 | 7.3 | 4.1 | 2.6 | 1.2 | 0.5 | 0.7 |
| 1993 | 8.9 | 16.3 | 10.2 | 3.5 | 4.2 | 4.4 | 4.5 | 4.0 | 12.8 | 6.7 | 7.8 |
| 1994 | 5.0 | 8.1 | 1.7 | 2.8 | 6.8 | 7.5 | 8.1 | 16.2 | 1.0 | 18.3 | 4.7 |
| 1995 | 6.0 | 9.8 | 17.1 | 5.5 | 8.7 | 8.4 | 15.9 | 16.7 | 3.7 | 15.4 | 10.5 |
| 1996 | 10.6 | 6.9 | 8.9 | 12.9 | 8.2 | 9.9 | 15.5 | 15.8 | 0.1 | 1.9 | 6.0 |
| 1997 | 10.0 | 16.4 | 1.8 | 62.7 | | | | 13.0 | 0.3 | 3.4 | 17.3 |
| 1998 | 30.3 | 8.7 | 21.2 | | | | | | 36.1 | 53.7 | 52.7 |
| Mean | 12.3 | 10.7 | 11.6 | 15.2 | 9.7 | 10.2 | 10.6 | 9.7 | 13.0 | 13.0 | 13.9 |

* GB03 and GB06 are assessment sub-areas of management area 5-3.

Table A2.3. Walleye catch information for undersized fish (<350 mm total length) from partnership index fishing using two trap nets in management area 4-5, summer and fall 1994 - 1998.

| Month | # of Net Lifts | # of Net Nights Fished | # Undersize Walleye Caught | CPUE (per net night) | # Walleye Aged | Age Composition (%) Age 1 | Age 2 | Age 3 |
|---|---|---|---|---|---|---|---|---|
| June, 1994 | 4 | 15 | 38 | 2.53 | 8 | 12 | 88 | 0 |
| July | 5 | 18 | 42 | 2.33 | 18 | 0 | 94 | 6 |
| August | 6 | 21 | 86 | 4.10 | 24 | 46 | 46 | 8 |
| September | 1 | 3 | 5 | 1.67 | 5 | 100 | 0 | 0 |
| Total 1994 | 16 | 57 | 171 | 3.00 | 55 | 31 | 64 | 5 |
| June, 1995 | 5 | 15 | 141 | 9.40 | 20 | 5 | 95 | 0 |
| July | 11 | 36 | 174 | 4.83 | 30 | 10 | 90 | 0 |
| August | 7 | 23 | 102 | 4.43 | 57 | 12 | 88 | 0 |
| October | 1 | 3 | 21 | 7.00 | 5 | 100 | 0 | 0 |
| Total 1995 | 24 | 77 | 438 | 5.69 | 112 | 14 | 86 | 0 |
| June, 1996 | 1 | 3 | 48 | 16.00 | 5 | 0 | 100 | 0 |
| July | 3 | 7 | 144 | 20.57 | 16 | 0 | 100 | 0 |
| August | 1 | 5 | 14 | 2.80 | 5 | 0 | 100 | 0 |
| Total 1996 | 4 | 15 | 206 | 13.73 | 26 | 0 | 100 | 0 |
| June, 1997 | 2 | 9 | 7 | 0.78 | 5 | 0 | 60 | 40 |
| July | 7 | 28 | 77 | 2.75 | 45 | 16 | 62 | 22 |
| August | 7 | 29 | 68 | 2.34 | 77 | 42 | 50 | 8 |
| September | 8 | 36 | 72 | 2.00 | 64 | 77 | 20 | 3 |
| October | 4 | 12 | 13 | 1.08 | 59 | 81 | 19 | 0 |
| Total 1997 | 28 | 114 | 237 | 2.08 | 250 | 54 | 38 | 8 |
| May, 1998 | 2 | 7 | 21 | 3.00 | 18 | 0 | 100 | 0 |
| June | 6 | 19 | 671 | 35.32 | 30 | 3 | 94 | 3 |
| July | 9 | 34 | 790 | 23.24 | 57 | 0 | 100 | 0 |
| September | 2 | 10 | 60 | 6.00 | 4 | 0 | 100 | 0 |
| Total 1998 | 19 | 70 | 1542 | 22.03 | 109 | 1 | 98 | 1 |

Table A2.4. Standardized year-class strength index values for lake whitefish in management area 6-1 from 1993 -1996 co-operative index fishing.

| Year-Class | Index Value |
|---|---|
| 1990 | 9.7 |
| 1991 | 11.3 |
| 1992 | 7.4 |
| 1993 | 12.3 |
| 1994 | 13.9 |
| 1995 | 0.9 |
| Mean | 9.3 |

Note: Since 1993 this index project has used monofilament nets with 50m panels of each of 51, 64 and 76 mm mesh. A few samples from management area 4-2 are included in the data.

## APPENDIX 3

Final quotas on 1999 Lake Huron commercial fishing licences as percent of 1998 base quotas.

| QUOTA AREA | WHITEFISH | CHUB | WALLEYE | YELLOW PERCH | STURGEON | PIKE | CHANNEL CATFISH | LAKE TROUT |
|---|---|---|---|---|---|---|---|---|
| 4-1 | 100% | 100% | 100% | 100% | 100% | no quota | 100% | 100% |
| 4-2 | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| 4-3 | 100% | 110% | 100% | 100% | 100% | 100% | 100% | 100% |
| 4-4 | 100% | 100% | 100% | 100% | 100% | 100% | unlimited | 100% |
| 4-5 | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| 4-7 | 100% | 100% | 100% | 100% | no quota | 100% | unlimited | 100% |
| 5-1 | 100% | 100% | 100% | 100% | 100% | 100% | no quota | 100% |
| 5-2 | 100% | 100% | 100% | 100% | 100% | 100% | no quota | no quota |
| 5-3 | 100% | 100% | no quota | 100% | no quota | 100% | 100% | 100% |
| 5-4 | 100% | 100% | 100% | 100% | no quota | no quota | no quota | no quota |
| 5-5 | 100% | 100% | no quota | 100% | no quota | no quota | no quota | no quota |
| 5-6 | 100% | 100% | 100% | 100% | no quota | no quota | no quota | 100% |
| 5-7 | 100% | 100% | 100% | 100% | 100% | 100% | no quota | 100% |
| 5-8 | 110% | 100% | no quota | 100% | no quota | no quota | no quota | 100% |
| 5-9 | 100% | 100% | 100% | 100% | 100% | no quota | unlimited | 100% |
| 6-1 | 100% | no quota | 100% | 100% | 100% | 100% | 100% | 100% |
| 6-3 | 100% | no quota | no quota | 100% | no quota | 100% | 100% | 100% |

## APPENDIX 4

Commercial fisheries involved in onboard commercial catch sampling or other co-operative assessment projects in 1999.

**FISHERS**:
Beausoleil First Nation
Carlson Brothers Fisheries
Elmer Carlson
John Deeg
Douglas Goodison
Gary Goodison
Robert Herbert
Murray Hore
William Jackson
William Karwaski
Bernard Lepage
Liddle Brothers Fisheries Limited
Carl Lotz
Mathew Miklovic
Mississauga First Nation
Wayne Mitchell
Bryan Nyman
Leonard Nyman
Glenn Parr
Vito Peralta
John Perks
Pilon Fisheries Limited
Ulysses and Isabelle Pratas
Andrew Pucovsky
Purdy Fisheries Limited
The Purvis Brothers Limited
Stanley Telford
Edward Tonello
Walter White
Wikwemikong First Nation
Willard Witty